

# **‘WHAT INHIBITS TEAMWORK IN SAFETY CRITICAL ORGANISATIONS?’**

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# ‘Initium Propositum’

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## **PREFATORY PARTS**

[illegible]

Andrew Carnegie

*Scottish / American Industrialist, Philanthropist, Founder of US Steel Corporation and Public Libraries*





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## **PERSONAL QUOTE**

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***“THE FOUR YEARS SPENT COMPILING THIS THESIS HAS CERTAINLY BEEN A LIFE-CHANGING AND CHALLENGING EXPEDITION. WHILST WANDERING THROUGH THE UPS AND DOWNS, ABSORBING KNOWLEDGE AND EXPERIENCES, I HAVE HOPEFULLY BECOME A WISER, MORE BALANCED, CONSIDERATE AND CREDIBLE INDIVIDUAL. WITHOUT THE PEOPLE WHO CARE AND SUPPORTED ME DURING THIS PERIOD I WOULD NEVER HAVE BEEN ABLE TO MAKE THIS EXTRAORDINARY JOURNEY, THEREFORE I OFFER MY SINCERE THANKS TO YOU ALL...”***

***~Gary James Fuller***  
***(1975 - Present)***  
***Welsh Aircraft Engineer***





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### **Thesis Title:**

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I also declare that I am the sole author of this thesis and all work within it is my own. Furthermore, to the best of my knowledge any assistance received in preparing this thesis and all sources used within it have been appropriately acknowledged and referenced in accordance with the University of South Wales published guidelines.

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***Date:*** .....*4<sup>th</sup> July 2018*.....

*Gary James Fuller*

*2018*

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## **DEDICATION**

*I dedicate this thesis to a very important and dear friend, Mr Paul King.*

Paul unfortunately passed away at the early age of only 41; he was an active subject in this research and was always very enthusiastic about it. I fondly remember Paul coming in to see me enquiring how the study was progressing on numerous occasions. Such interest helped to keep me motivated, on track and focused; and ultimately gave me the vigour to complete the study.

I offer my sincere thanks to you Paul for your keen interest and your candid contribution part of which made this thesis possible.

*Thank you and sleep tight my good friend...*

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## **ACKNOWLEDGMENTS**

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***“LIVE AS IF YOU WERE TO DIE TOMORROW. LEARN AS IF YOU WERE TO LIVE FOREVER...”***

*Mohandas*

***~Mohandas (Mahatma) Karamchand Gandhi***

***(1869 - 1948)***

*Indian Civil Rights Activist, Director of Independence Movement, Architect of Non-Violent Civil Disobedience, 1st Prime Minister of Independent India*

---

***I would like to show my gratitude too many but will start with three very remarkable people, my three beautiful children Master Dylan James Owen Fuller (aged 18), Master Garyn James Fuller (aged 13) and Miss Charlotte Louise Elizabeth Fuller (aged 10).***

I can only offer sincere gratitude to you three for the hundreds of cups of tea and coffee you've made and for keeping me well fed throughout this challenging expedition. You have also offered me much needed encouragement mature beyond your years during times of desperation. Your unyielding support during this trying period has made compiling this thesis a *slightly* easier task. I will be forever grateful for your unselfish actions; your kind words of reassurance, your patience and consistent support as not once have any of you complained.

I would also like thank my other family members, friends and work colleagues, who have been very understanding, have always shown an interested in my progress and offered support and humour in times of near insanity. I would also like to take this opportunity to thank anyone who participated in the research and unselfishly gave up their knowledge and time for me as without your input this adventure would have amounted to nothing.

This thesis has been a colossal challenge yet one of the most fulfilling experiences of my life. I especially note the sacrifice of working late nights and early mornings being eclipsed by the excitement of expanding my knowledge of previously unknown subjects; along with growth as a person which gave me enormous satisfaction. I also feel blessed to have made many good friends along the way, people from many different industries, cultures, creeds and countries, memories of which I will always cherish. I offer my thanks to my sponsor and long-term employer for allowing me to embark on this degree and supporting it as best they could, again without their co-operation none of this would have been possible.

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Finally, it will become clearly apparent to readers of this thesis that I have included inspirational quotes to lead each chapter from a few pertinent and well-known individuals whom I consider to be nothing less than extraordinary. They all beat the odds no matter what was stacked against them, changed what seemed to be the impossible and showed tremendous bravery in times of extreme adversity. Sadly, some of them unfortunately gave the ultimate sacrifice and had their futures cut cruelly short often because of their steadfast principles. Fate aside, they all displayed remarkable wisdom and understanding well beyond their years and left a large and infinite legacy on humankind. Most amazing is they exercised their talents in such a humble manner most didn't even realise they were doing so and were totally unaware of the influence their actions would offer. I draw your attention to the inspirational words of Mohandas (Mahatma) Gandhi above, an exceptional, well-educated individual who preached respect, tolerance, peace and humility; his bright subtle words gave me encouragement and motivation in times of solitude and anguish. To close I sincerely hope you enjoy reading and learn from this thesis, and you gain a little from something that has given me so much.



## **ABSTRACT**

*Teamworking is far from an exclusively modern method of workplace management, humans have been arranged into teams for over two-hundred thousand years (West, Tjosvold and Smith, 2005). Its application in the private, public and third sectors has however experienced huge growth during recent decades and it is considered one of the most significant management fashions (Hayes, 2008), with most if not all organisations now operating some form of teamworking (Morgeson, DeRue and Karam, 2010).*

Due to their popularity teams, it seems are here to stay (Van Hootegeem *et al.*, 2005), they are considered by some to be the building blocks of contemporary organisations (Stewart and Barrick, 2000; Kozlowski and Ilgen, 2006) and “*central to organisational success*” (Martin and Bal, 2006). Many report substantial benefits by empowering individuals and giving them greater control (Hyden, 1994). This is achieved by gaining the maximum out of employees (Kinlaw, 1998), following the rationale that “*if an organisation is to perform it must be organised as a team*” (Drucker, 1992, p. 102).

When work is arranged in teams it displays many advantageous characteristics, it is considered dynamic, flexible and the core of modern day, lean institutions (Womack, Jones and Roos, 1990), the primary ingredient for prosperous future organisational performance (Katzenbach and Smith, 2003). Teams enable autonomous employees to control their own jobs and use their skills and abilities to benefit both themselves and their organisations (Heathfield, 2000). Other advantages include improvements in quality (Parker, 1990; Wellins, Dyham and Wilson, 1990; Cohen, Ledford and Spreitzer 1996; Oakland, 1996), productivity (Goodman, Devades and Griffith-Hughson, 1988; Parker, 1990; Cohen, Ledford and Spreitzer 1996; Kirkman and Rosen, 1996), more effective use of resources, better decision-making and problem-solving skills (Parker, 1990). Additionally, team-based employees illustrate increased devotion and accountability (Katzenbach and Smith, 2003), improved morale (Hayes, 2005) and greater commitment and safer working (Parker, Axtell and Turner, 2001). They also offer more complex, innovative and comprehensive solutions to organisational problems (Sundstrom, DeMeuse and Futrell, 1990).

The research arena itself is a highly skilled aircraft engine maintenance, repair and overhaul (MRO) provider and major employer based in South Wales, UK. The company has been practicing teamworking for over twenty years and is therefore considered mature in team terms. Presently the management technique is subject to re-invigoration and considerable attention is being dedicated to improving the performance of teams. This is due to the intense pressure the organisation is experiencing from several low-cost competitors that are extremely aggressive in pursuing business from more mature western based MRO providers. Consequently, the company is experiencing cost-out demands from its current business model, this has created a need for innovation as well as diversity in the workplace (French and Bell, 2000; De Dreu, 2007). All realistic efficiency measures must be carefully considered to maintain competitive edge and preserve market share.

The following research involved investigation of the perception of production-based team members on the teamworking method to evaluate what they think about various aspects of the practice. Such an inquiry conducted within a highly skilled production environment with mature teams is a relatively understudied area; hence, there was significant opportunity to gain an increased understanding on this rather complicated matter.

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**KEYWORDS:** *aviation, employee perception of management practices, self-directed teams, teams, teaming, teamworking, team-based organisations, technical environment, MRO.*

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## **TABLE OF CONTENTS**

<b><u>TITLE</u></b>	<b><u>PAGE</u></b>
COVER PAGE .....	I
PREFATORY PARTS.....	III
INTRODUCTORY QUOTE .....	IV
PERSONAL QUOTE .....	V
STATEMENT OF COPYRIGHT.....	VI
DECLARATION OF ORIGINALITY .....	VII
DEDICATION.....	VIII
ACKNOWLEDGMENTS .....	IX
ABSTRACT.....	X
TABLE OF CONTENTS.....	XI
LIST OF TABLES.....	XVI
LIST OF FIGURES .....	XVII
LIST OF ABBREVIATIONS.....	XVIII
LIST OF SYMBOLS .....	XX
LIST OF APPENDICES.....	XXI
1.0 INTRODUCTION .....	25
1.1 THESIS PROGRESSION.....	25
1.1.1 Progress Map .....	25
1.2 CHAPTER INTRODUCTION AND OBJECTIVES .....	25
1.2.1 Introduction.....	25
1.2.2 Objectives of the Chapter.....	26
1.3 THE EVOLUTION OF THE MODERN METHODS OF PRODUCTION.....	26
1.3.1 The Traditional Approach and the Migration to Teamworking .....	26
1.4 THE TEAM METHOD OF WORKING.....	29
1.4.1 The Widespread Introduction of Teamworking .....	29
1.5 RESEARCH ARENA'S BACKGROUND, ERA OF CHANGE AND MOTIVATION FOR RESEARCH.....	33
1.5.1 Historical Background .....	33
1.5.2 The Era of Management Change and Associated Cost Pressures .....	37
1.5.3 Personal Motivation for Undertaking Research on Teamworking.....	39
1.6 RESEARCH AIMS AND OBJECTIVES .....	40
1.6.1 Research Aim.....	40
1.6.2 Research Objectives.....	41
1.7 RESEARCH PROBLEM .....	41
1.7.1 Research Problem and Questions.....	41
1.8 OVERVIEW OF THE THESIS STRUCTURE .....	44
1.8.1 Summary of Thesis Structure and Roadmap.....	43
1.9 CHAPTER SUMMARY .....	45
1.9.1 Summary .....	45
2.0 REVIEW OF LITERATURE .....	48
2.1 THESIS PROGRESSION.....	48
2.1.1 Progress Map .....	48



2.2 CHAPTER INTRODUCTION AND OBJECTIVES .....	48
2.2.1 Introduction.....	48
2.2.2 Objectives of the Chapter.....	50
2.3 REVIEW OF TEAMWORKING LITERATURE .....	50
2.3.1 Definition of Key Terms .....	50
2.3.2 Advantages of Teamworking .....	51
2.3.3 Disadvantages of Teamworking.....	55
2.3.4 Team Training.....	60
2.3.5 Team Roles and Responsibilities .....	70
2.3.6 Incentives and Teamworking .....	79
2.3.7 Team Decision-Making Processes .....	84
2.3.8 Knowledge Gaps in the Key Areas Assessed by Literature Review.....	92
2.4 KEY AREAS AND PERTINENT MANAGEMENT METHODS .....	95
2.4.1 Accountability of Key Areas Considered During the Literature Review .....	95
2.5 CHAPTER SUMMARY .....	97
2.5.1 Summary .....	97
3.0 METHODOLOGY .....	99
3.1 THESIS PROGRESSION.....	99
3.1.1 Progress Map .....	99
3.2 CHAPTER INTRODUCTION AND OBJECTIVES .....	99
3.2.1 Introduction.....	99
3.2.2 Objectives of the Chapter.....	100
3.3 RESEARCH PARADIGMATIC CONSIDERATIONS .....	101
3.3.1 Research Paradigms .....	101
3.3.2 Positivist Paradigm .....	101
3.3.3 Post-Positivist Paradigm .....	102
3.3.4 Critical Theory Paradigm.....	103
3.3.5 Constructivist Paradigm.....	103
3.3.6 Summary of the Four Research Paradigms .....	104
3.3.7 Justification for the Choice of Appropriate Research Paradigm.....	106
3.4 METHODOLOGICAL CONSIDERATIONS .....	108
3.4.1 Research Methodologies .....	108
3.4.2 The Qualitative Research Methodology.....	108
3.4.3 Summary of the Qualitative Research Methodology .....	111
3.4.4 Justification for the Choice of Appropriate Research Methodology.....	112
3.5 QUALITATIVE RESEARCH TECHNIQUES .....	113
3.5.1 Qualitative Data Collection Methods.....	113
3.5.2 Summary of the Available Qualitative Data Collection Methods.....	114
3.5.3 Justification for the Choice of Appropriate Quantitative Data Collection Method .....	116
3.5.4 Type of Interviews Available to Researchers .....	117
3.5.5 Unstructured Interviewing .....	117
3.5.6 Semi-Structured Interviewing .....	118
3.5.7 Structured Interviewing.....	118
3.5.8 Summary of the Three Types of Qualitative Interview Methods Available .....	119
3.5.9 Justification for the Choice of Appropriate Interview Method .....	120
3.5.10 Summary of the Research Design .....	121
3.6 THE DESIGN AND ACCOMPLISHMENT OF THE SEMI-STRUCTURED INTERVIEWS.....	121
3.6.1 Interview Sample Population .....	121
3.6.2 Data Saturation.....	123
3.6.3 Choosing the Research Subjects .....	124
3.6.4 Pilot Studies .....	124
3.6.5 The Interview Format.....	125
3.6.6 Access to the Research Subjects .....	127
3.7 QUALITATIVE DATA ANALYSIS PROCEDURE.....	127
3.7.1 Computer Assisted Qualitative Data Analysis Software .....	127



3.7.2 The Thematic Analysis Method .....	129
3.8 RESEARCH VALIDITY, RELIABILITY AND REFLEXIVITY .....	130
3.8.1 The Importance of Validity in Research .....	130
3.8.2 Reliability in Research .....	133
3.8.3 Ensuring Reflexivity .....	135
3.9 ETHICAL CONSIDERATIONS AND PROCESS OF INFORMED CONSENT .....	139
3.9.1 Ethics in Research Practice .....	139
3.9.2 Ethical Considerations .....	139
3.9.3 Ethical Courtesy Prior to Commencing Research.....	140
3.9.4 Key Ethical Area's and Unethical Practice .....	140
3.9.5 The Process of Informed Consent .....	141
3.9.6 Subject Confidentiality, Anonymity and Protection of Data .....	141
3.9.7 Summary of the Ethical Strategy Applied During the Case Study .....	143
3.10 CHAPTER SUMMARY .....	145
3.10.1 Summary .....	145
4.0 ANALYSIS OF FINDINGS .....	148
4.1.1 Progress Map .....	148
4.2 CHAPTER INTRODUCTION AND OBJECTIVES .....	148
4.2.1 Introduction.....	148
4.2.2 Objectives of the Chapter.....	149
4.3 SUBJECT DEMOGRAPHICS .....	149
4.3.1 Research Population Specifics .....	149
4.4 ANALYSIS OF FINDINGS.....	153
4.4.1 Overview of Findings.....	153
4.4.2 Emergent Theme One 'The Implications of Effective Training to Teamworking' .....	154
4.4.3 Emergent Theme Two 'The Significance of Established Roles and Responsibilities' .....	164
4.4.4 Emergent Theme Three 'The Use of Incentives to Enhance Team Performance' .....	172
4.4.5 Emergent Theme Four 'The Process of Making Decisions Within Teams' .....	180
4.4.6 EmergentTheme Five 'Role of Middle Management Within the Team Environment' .....	187
4.5 CHAPTER SUMMARY .....	197
4.5.1 Summary .....	197
5.0 DISCUSSION OF RESULTS.....	199
5.1 THESIS PROGRESSION.....	199
5.1.1 Progress Map .....	199
5.2 CHAPTER INTRODUCTION AND OBJECTIVES .....	199
5.2.1 Introduction.....	199
5.2.2 Objectives of the Chapter.....	200
5.3 THE DISCUSSION OF RESULTS .....	200
5.3.1 'The Implications of Effective Training to Teamworking' .....	200
5.3.2 'The Significance of Established Roles and Responsibilities to Teamworking' .....	213
5.3.3 'The Use of Incentives to Enhance Team Performance' .....	220
5.3.4 'The Process of Making Decisions Within Teams' .....	226
5.3.5 'The Role of Middle Management Within the Team Environment' .....	233
5.4 CHAPTER SUMMARY .....	244
5.4.1. Summary .....	244
6.0 CONCLUSIONS AND RECOMMENDATIONS .....	246
6.1 THESIS PROGRESSION.....	246
6.1.1 Progress Map .....	246
6.2 CHAPTER INTRODUCTION AND OBJECTIVES .....	246
6.2.1 Introduction.....	246
6.2.2 Objectives of the Chapter.....	247
6.3 CONTRIBUTION OF THE RESEARCH .....	248
6.3.1 Contributions to Knowledge and Practice and Recommendations .....	248





6.4 RESEARCH QUESTION ONE .....	249
6.4.1 Question One Review .....	249
6.4.2 Definitive Contribution and Classification .....	249
6.4.3 Contribution to Knowledge.....	249
6.4.4 Contribution to Practice .....	251
6.4.5 Recommendations of Changes to Present Practice .....	251
6.5 RESEARCH QUESTION TWO.....	252
6.5.1 Question Two Review.....	252
6.5.2 Definitive Contribution and Classification .....	253
6.5.3 Contribution to Knowledge.....	253
6.5.4 Contribution to Practice .....	255
6.5.5 Recommendations of Changes to Present Practice .....	256
6.6 RESEARCH QUESTION THREE.....	257
6.6.1 Question Three Review.....	257
6.6.2 Definitive Contribution and Classification .....	257
6.6.3 Contribution to Knowledge.....	257
6.6.4 Contribution to Practice .....	258
6.6.5 Recommendations of Changes to Present Practice .....	259
6.7 RESEARCH QUESTION FOUR.....	259
6.7.1 Question Four Review .....	259
6.7.2 Definitive Contribution and Classification .....	259
6.7.3 Contribution to Knowledge.....	260
6.7.4 Contribution to Practice .....	261
6.7.5 Recommendations of Changes to Present Practice .....	262
6.8 RESEARCH QUESTION FIVE .....	263
6.8.1 Question Five Review.....	263
6.8.2 Definitive Contribution and Classification .....	263
6.8.3 Contribution to Knowledge.....	264
6.8.4 Contribution to Practice .....	265
6.8.5 Recommendations of Changes to Present Practice .....	265
6.9 SUMMARISED RESEARCH PROBLEM RESOLUTION.....	266
6.9.1 What Inhibits Teamwork in Safety Critical Organisations? .....	266
6.10 GAP ANALYSIS OF KEY AREAS WITH PERTINENT MANAGEMENT METHODS.....	272
6.10.1 Management Method in Operating in Key Areas at Company 'A' .....	272
6.11 LIMITATIONS OF THIS RESEARCH.....	274
6.11.1 Exploring Relevant Limitations .....	274
6.11.2 Number of Subjects.....	274
6.11.3 Organisational Representation .....	275
6.11.4 Access to Other Safety Critical Aviation Sites .....	275
6.12 FUTURE WORK .....	275
6.12.1 Recommendations for Future Work.....	275
6.12.2 Performing Team Research in Other Aviation Facilities .....	276
6.12.3 Undertaking Research with the Management Team .....	276
6.12.4 Culture and Teamworking in an 'Organisation with Memory' .....	276
6.12.5 Gender and the Impact on Teamworking.....	277
6.12.6 Training, Longevity and its Effect on Teamworking.....	277
6.12.7 Feasibility Study on the Genuine Cost of Maintaining Teamworking.....	277
6.13 THE CASE STUDY AND ITS IMPLICATIONS FOR TEACHING .....	278
6.13.1 The Potential Teaching Implications of this Case Study .....	278
6.14 CRITICAL REFLECTION.....	279
6.14.1 Critical Reflection of the Research Process .....	279
6.14.2 Repeating the Case Study .....	279
6.14.3 Personal Learning Perspective .....	280
6.15 CHAPTER SUMMARY .....	280
6.15.1 Summary .....	280





REFERENCES ..... 283

APPENDICES ..... 358



## **LIST OF TABLES**

<b><u>TITLE</u></b>	<b><u>PAGE</u></b>
<b><i>TABLE 1.1: Comparison of Significant Periods, Key Milestones and Adopted Management Practices.....</i></b>	<b><i>36</i></b>
<b><i>TABLE 1.2: The Eight Research Objectives.....</i></b>	<b><i>41</i></b>
<b><i>TABLE 1.3: Summary of the Various Components Contained in the Thesis.....</i></b>	<b><i>44</i></b>
<b><i>TABLE 2.1: Summary of the Five Types of Team Training Discussed.....</i></b>	<b><i>63</i></b>
<b><i>TABLE 2.2: Crew Resources Management and Maintenance Resource Training Attributes .....</i></b>	<b><i>69</i></b>
<b><i>TABLE 2.3: Comparison of Key Literature, Associated Responsibility and Common Management Methods.....</i></b>	<b><i>96</i></b>
<b><i>TABLE 3.1: Characteristics of the Four Mainstream Research Paradigms.....</i></b>	<b><i>105</i></b>
<b><i>TABLE 3.2: Characteristics of Quantitative and Qualitative Researcher .....</i></b>	<b><i>110</i></b>
<b><i>TABLE 3.3: Summary of the Typical Characteristics of the Qualitative Research Methodology.....</i></b>	<b><i>111</i></b>
<b><i>TABLE 3.4: A Summary of the Most Prominent Qualitative Data Collection Methods.....</i></b>	<b><i>114</i></b>
<b><i>TABLE 3.5: Characteristics of the Three Types of Interview Techniques.....</i></b>	<b><i>119</i></b>
<b><i>TABLE 3.6: Summary of the Strategy Employed to Ensure Validity During This Research .....</i></b>	<b><i>132</i></b>
<b><i>TABLE 3.7: Summary of the Strategy Employed to Ensure Reliability During This Research.....</i></b>	<b><i>134</i></b>
<b><i>TABLE 3.8: Summary of the Strategy Employed to Ensure Reflexivity During This Research.....</i></b>	<b><i>137</i></b>
<b><i>TABLE 3.9: Summary of Ethical Strategy Employed During This Case Study.....</i></b>	<b><i>144</i></b>
<b><i>TABLE 4.1: Interview Subjects Area of Work and Unique Designated Codes.....</i></b>	<b><i>152</i></b>
<b><i>TABLE 4.2: The Five of Emergent Themes.....</i></b>	<b><i>153</i></b>
<b><i>TABLE 5.1: The Role of Traditional Leaders as Opposed to Team Leaders.....</i></b>	<b><i>240</i></b>
<b><i>TABLE 6.1: Definitive Contribution and Classification of Research Question One.....</i></b>	<b><i>249</i></b>
<b><i>TABLE 6.2: Definitive Contribution and Classification of Research Question Two.....</i></b>	<b><i>253</i></b>
<b><i>TABLE 6.3: Definitive Contribution and Classification of Research Question Three.....</i></b>	<b><i>257</i></b>
<b><i>TABLE 6.4: Definitive Contribution and Classification of Research Question Four.....</i></b>	<b><i>259</i></b>
<b><i>TABLE 6.5: Definitive Contribution and Classification of Research Question Five.....</i></b>	<b><i>263</i></b>
<b><i>TABLE 6.6: Summary, Emergent Themes, Significant Literature Points, Findings and Learning Outcomes....</i></b>	<b><i>269</i></b>
<b><i>TABLE 6.7: Comparison of Key Literature with Who Typically Holds Responsibility in Company 'A' .....</i></b>	<b><i>273</i></b>



## **LIST OF FIGURES**

<b><u>TITLE</u></b>	<b><u>PAGE</u></b>
<b>FIGURE 1.1:</b> Thesis Progress Map.....	25
<b>FIGURE 1.2:</b> Global Gross Domestic Product Per-Capita Growth.....	27
<b>FIGURE 1.3:</b> An Example of Taylor's 'Scientific Management' Method of Working.....	31
<b>FIGURE 1.4:</b> Operational Cost per Hour (OCPH) Formula.....	39
<b>FIGURE 2.1:</b> Thesis Progress Map.....	48
<b>FIGURE 2.2:</b> Belbin's Nice Team Roles and Responsibilities.....	78
<b>FIGURE 3.1:</b> Thesis Progress Map.....	99
<b>FIGURE 3.2:</b> Summary of the Research Design.....	121
<b>FIGURE 3.3:</b> Summary of the Semi-Structured Interview Design and Execution Process .....	130
<b>FIGURE 4.1:</b> Thesis Progress Map.....	148
<b>FIGURE 4.2:</b> Age of Mix of Subjects.....	150
<b>FIGURE 4.3:</b> Gender Mix of Engineering and Manufacturing Industries in the European Union.....	151
<b>FIGURE 4.4:</b> Gender Mix of Research Subjects.....	151
<b>FIGURE 4.5:</b> High Level Illustration of Current Management Structure at Company 'A' .....	188
<b>FIGURE 5.1:</b> Thesis Progress Map.....	199
<b>FIGURE 5.2:</b> Summary of Leadership Processes Affect Team Processes, Effectiveness.....	236
<b>FIGURE 6.1:</b> Thesis Progress Map.....	246



## **LIST OF ABBREVIATIONS**

<b>ACAS</b>	– <i>Advisory, Conciliation and Arbitration Service</i>
<b>APU</b>	– <i>Auxiliary Power Unit</i>
<b>BA</b>	– <i>British Airways</i>
<b>BIA</b>	– <i>British Imperial Airways</i>
<b>BP</b>	– <i>British Petroleum</i>
<b>BCC</b>	– <i>British Coal Corporation</i>
<b>BT</b>	– <i>British Telecom</i>
<b>BSC</b>	– <i>British Steel Corporation</i>
<b>CAA</b>	– <i>Civil Aviation Authority</i>
<b>CAQDAS</b>	– <i>Computer Assisted Qualitative Data Analysis Software</i>
<b>DBA</b>	– <i>Doctor of Business Administration</i>
<b>EA</b>	– <i>Engine Alliance Joint Venture</i>
<b>EASA</b>	– <i>European Aviation Safety Administration</i>
<b>EHS</b>	– <i>Environmental Health and Safety</i>
<b>EFILWC</b>	– <i>European Foundation for Improvement of Living and Working Conditions</i>
<b>EM</b>	– <i>Engine Manual</i>
<b>FAA</b>	– <i>Federal Aviation Authority</i>
<b>GE</b>	– <i>General Electric Corporation</i>
<b>GDP</b>	– <i>Gross Domestic Product</i>
<b>GMC</b>	– <i>General Motor Company</i>
<b>HRO</b>	– <i>High Reliability Organisation</i>
<b>HR</b>	– <i>Human Resources</i>
<b>ICI</b>	– <i>Imperial Chemical Industries</i>
<b>KSA</b>	– <i>Knowledge, Skills and Abilities</i>
<b>m<sup>2</sup></b>	– <i>Meter Squared</i>



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<b>MIT</b>	– <i>Massachusetts Institute of Technology</i>
<b>NCB</b>	– <i>National Coal Board</i>
<b>NHS</b>	– <i>National Health Service</i>
<b>NPLA</b>	– <i>National Power Loading Agreement</i>
<b>NUM</b>	– <i>National Union of Mineworkers</i>
<b>OCPH</b>	– <i>Operational Cost per Hour</i>
<b>OEM</b>	– <i>Original Equipment Manufacturer</i>
<b>PWA</b>	– <i>Pratt and Whitney Corporation</i>
<b>P and G</b>	– <i>Proctor and Gamble Corporation</i>
<b>PLC</b>	– <i>Public Limited Company</i>
<b>PRP</b>	– <i>Profit Related Pay</i>
<b>RAF</b>	– <i>Royal Air Force</i>
<b>RCGD</b>	– <i>Research Centre for Group Dynamics</i>
<b>RR</b>	– <i>Rolls Royce PLC</i>
<b>SOP</b>	– <i>Standard Operating Procedures</i>
<b>TAT</b>	– <i>Turn Around Time</i>
<b>TIHR</b>	– <i>Tavistock Institute of Human Relations</i>
<b>UK</b>	– <i>United Kingdom</i>
<b>US</b>	– <i>United States</i>
<b>USA</b>	– <i>United States of America</i>
<b>USB</b>	– <i>Universal Serial Bus</i>
<b>USW</b>	– <i>University of South Wales</i>
<b>WERS</b>	– <i>Workplace Employment Relations Survey</i>



## **LIST OF SYMBOLS**

\$	– <i>United States Dollar</i>
£	– <i>British Pound Sterling</i>
$\Sigma$	– <i>Total Sum</i>
=	– <i>Equal Too</i>
%	– <i>Per Cent</i>
&	– <i>And</i>





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## **LIST OF APPENDICES**

<b><u>TITLE</u></b>	<b><u>PAGE</u></b>
<i>APPENDIX A: Interview Guide.....</i>	<i>358</i>
<i>APPENDIX B: Informed Consent Cover Letter and Permission Slip.....</i>	<i>360</i>
<i>APPENDIX C: Email to Staff Requesting Volunteers to Participate in the Study.....</i>	<i>362</i>
<i>APPENDIX D: Ethical Proposal.....</i>	<i>363</i>



**TEXT PARTS**



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***“HOWEVER DIFFICULT LIFE MAY SEEM, THERE IS ALWAYS SOMETHING YOU  
CAN DO AND SUCCEED AT...”***

*S. Hawking*

***~ Professor Stephen Hawking***  
***(1942- 2018)***

*British Theoretical Physicist, Cosmologist, Author and Director of Research at the Centre of Theoretical Cosmology, University of Cambridge*

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## **~ Chapter 1 – Introduction ~**



## CHAPTER

# 1

## 1.0 INTRODUCTION

***“THE FUNCTION OF EDUCATION IS TO TEACH ONE TO THINK INTENSIVELY AND TO THINK CRITICALLY. INTELLIGENCE PLUS CHARACTER THAT IS THE GOAL OF TRUE EDUCATION...”***

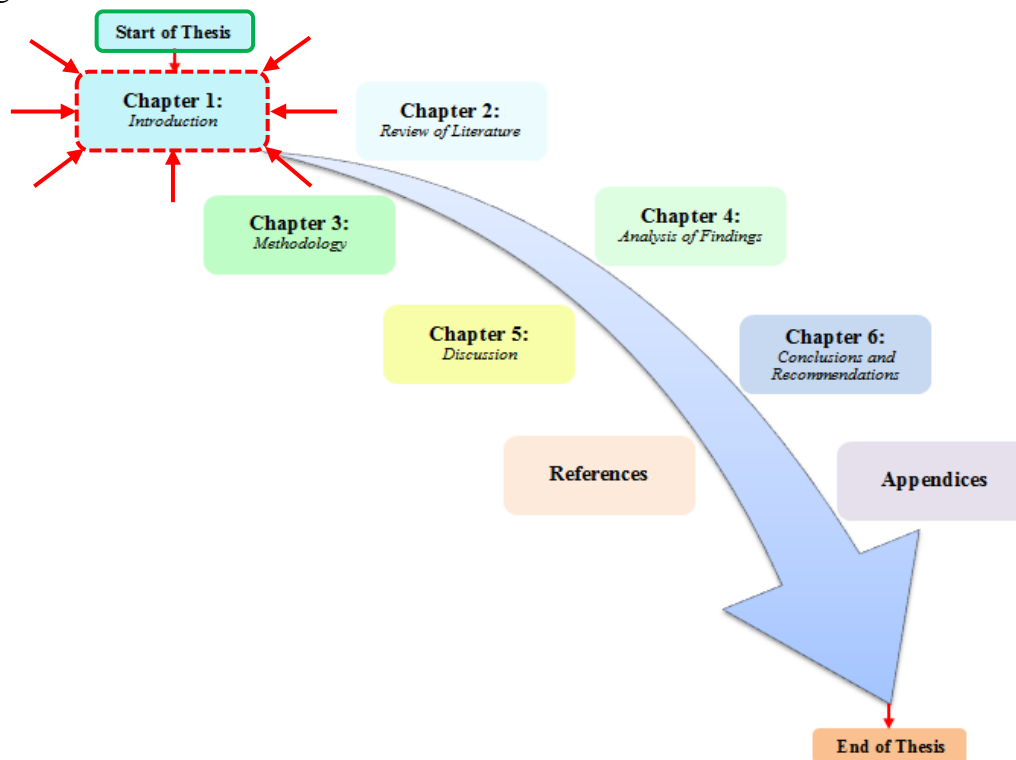
***~ Dr Martin Luther King, Jr.  
(1929 - 1968)***

*American Baptist Minister, Nobel Prize Winner, Humanitarian, Non-Violent Leader of the African-American Civil Rights Movement*

### 1.1 Thesis Progression

#### 1.1.1 Progress Map

The first chapter discusses the introduction of the research. Figure 1.1 illustrates the progression of the thesis so far.



***Figure 1.1:*** This chapter is concerned with the introduction to the thesis.

### 1.2 Chapter Introduction and Objectives

#### 1.2.1 Introduction

Prior to industrialisation the production of goods was characterised by a far more relaxed approach in respect of what was to come. During this period, most jobs were manually based and usually performed by a competent tradesperson or by someone who had learnt a



craft that was generally handed down from one generation to the next. The long-established and deeply entrenched customs and practices that dictated how work was undertaken was supported by rules and regulations, upheld by trade guilds. The acquisition of practical skills was taught during an apprenticeship-type education that were often regulated by long-established societies (Laukia, 2013). The quality of the goods produced was reliant on the individual's personal competence and attitude. There were no recognised formal methods of management and this was usually down to the personal style of the master craftsman and how they decided to apply their authority. One advantage employees had was being close to their product which meant they had a “*deep understanding and a strong interest in how it was used*” (Hayes, Wheelwright and Clark, 1988, p. 36) with a particularly passionate focus on providing elevated levels of customer service and product quality. Teams at this stage were reserved for sports, hunting and other social events, their use in industrial applications had not yet been considered.

### **1.2.2 Objectives of the Chapter**

The objectives of this chapter are to set out the foundations for the ensuing thesis by briefly introducing the teamworking philosophy, its development and specifically what the method entails. A brief discussion is held on the research host organisation as well as an overview given of its unique history and teamworking journey. The thesis aims, and objectives are stated, and the research problem and questions are formulated prior to a brief synopsis of each chapter as well as a conclusion are given. To start the traditional methods of production and the migration to teamworking will be discussed

## **1.3 The Evolution of the Modern Methods of Production**

### **1.3.1 The Traditional Approach and the Migration to Teamworking**

In the late 1700's the first of four industrial revolutions to date commenced and everything began to change dramatically (Thomasnet.com, 2016). This time is described as one of the most “*celebrated watersheds in human history*” (Allen and Allen, 2006, p. 1) that “*brought a host of technological and human relation problems never before imagined*” (Vee, 2009, p. 38). During this period the global economy grew beyond recognition and since individuals have experienced a dramatic rise in Gross Domestic Product (GDP)<sup>2</sup> per capita

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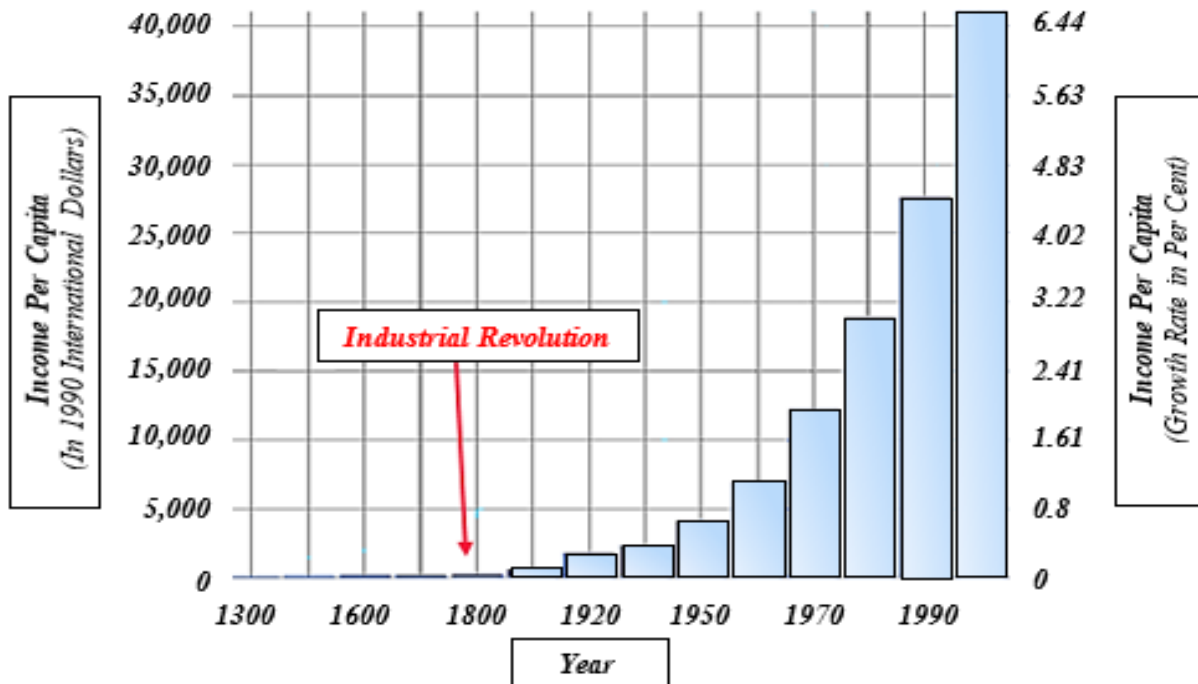
<sup>2</sup> Gross Domestic Product (GDP) per capita is a calculation obtained by dividing total economic output at current market prices by population. The United Nations (UN) states that a rise in GDP per capita signals growth in the economy and tends to reflect an increase in productivity (United Nations, 2017).

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attributed to the words industrial development. The dramatic rise in this principal measure of output and prosperity is illustrated in Figure 1.2:



**Figure 1.2:** Gross domestic product per capita has increased significantly globally since the arrival of industrialisation.

Source: Adapted from DeLong (1998, p. 10).

It was during the unprecedented development associated with the original industrial revolution that the traditional methods of production were replaced with labour intensive innovations that required little or no skill (O'Rourke, Rahman and Taylor, 2013). The industrial landscape was transformed at an unimaginable pace as the early pioneers rushed to embrace mechanisation by building vast factories in which to accommodate the newly available cost saving, productivity increasing technologies. The migration to mechanised methods of production effectively de-skilled workers and changed the way they thought about their jobs by reducing the physical and mental effort required to do them (Thomasnet.com, 2016). Industrialisation also spawned a new-found interest in how labour was managed, a curiosity that gathered significant pace (Parker, Axtell and Turner, 2001), particularly during the latter half of the 20<sup>th</sup> Century when a vast array of studies was undertaken, and many new theories of work arrangement were proposed.

The management of labour progressively moved away from a strict system of total control by superiors to one where “organisations have embraced teams and teamwork as an



*effective way of doing business*” (Manhas and Bakhshi, 2011, p. 2). The central assumption was that “*deep down everyone wants to contribute to the success of their organisation and teams*” (Matthews and McLees, 2015, p. 20). The teamworking method has indeed been found to be effective in overcoming potentially complex problems and making operations more efficient than when individuals work alone (Anderson *et al.*, 2001; Bell and Kozlowski, 2002; Borman, Ilgen and Klimoski, 2003; Salas and Fiore, 2004; Buvik, 2006; Salas *et al.*, 2006b; Jex and Britt, 2008). It has received widespread recognition regarding its productive accomplishment of work (Batenburg, 2013) and become a ubiquitous part of today's business world (McEwan *et al.*, 2017).

The actual structure of a team is claimed to consist of two or more individuals that are led by empowered individuals (Hyden, 1994) with specific job roles (Ilgen *et al.*, 2005; Rogelberg, 2007). Its subjects are characterised by “*a tendency to behave, contribute and interrelate with others in a particular way*” (Belbin, 2016, p. 1). Teams are not however simple, in fact they have been described as complex and dynamic in nature. This is further complicated by the fact that there is currently no universally agreed upon definition for many of the terms surrounding the method (Rousseau, Aubé and Savoie, 2006). Additionally, the components that make up or contribute to teams are often labelled differently and used inconsistently in the literature. This makes the concept even more difficult to contemplate and empiric results challenging to compare (Devine *et al.*, 1999; Salas *et al.*, 2000; Salas, Cooke and Rosen, 2008; Duel, 2010).

Further complexity includes not all teams are equally effective. They have contradictory boundaries and unequal levels of autonomy (Hackman, 1991; Hopkin, Garland and Wise, 1999; Salas, Sims and Burke, 2005). What is found effective in one teams situation may not be so in another (Devine *et al.*, 1999). Due to the differences present in every team and the lack of standardisation there is no one size fits all approach to teamwork (Paris, Salas and Cannon-Bowers, 2000; Salas *et al.*, 2000; Sjøvold, 2006), adding to the complexity in accurately assessing them.

Despite the many complications the method remains extremely popular. It is not just widely practiced in the United Kingdom (UK), the United States of America (USA) and mainland Europe but is also prevalent in nearly every sector of every industry around the globe albeit to varying degrees. It is mainstream practice not only in large companies, both



small and medium enterprises also embrace teamworking partly driven by the alleged benefits and an increased desire of workers to have more control over their jobs. Globalisation has also played its part in significantly shifting business models (World Economic Forum, 2017) and further promoted teamworking. The proliferation of world trade has placed increased demands on organisations to cut out unnecessary costs in the modern-day ever competitive, dynamic and complex business environments in which they are being forced to operating within (Delarue, 2003).

The fierce competition synonymous with the new world industrial order has forced organisations to dramatically set about slashing their costs to become leaner and remain competitive. One of the simplest ways to do so is to downsize burgeoning and costly management structures and elect for a method of arranging employees into teams. There are many companies operating today with management structures that are only a fraction of their former state. This rationalisation process of flattening out and becoming more horizontal in structure has benevolently been termed the “*romance of teams*” (Allen and Hecht, 2004).

Unsurprisingly as the concept of teams has gained in popularity then so has the amount of research on the phenomena. There has been a marked uplift in the number of studies attempting to investigate the matter with literally thousands commissioned across all facets of teamworking. This has resulted in stakeholders having admittance to an ever richer and more comprehensive pool of data as our understanding on the matter has advanced (Kozlowski and Klein, 2000). It is this complex yet fascinating subject that lies at the very core of this thesis, the widespread introduction of which will be discussed next.

## **1.4 The Team Method of Working**

### **1.4.1 The Widespread Introduction of Teamworking**

*“Teams of people working together for a common purpose have been a centrepiece of human social organisation ever since our ancient ancestors first banded together to hunt game, raise families, and defend their communities. Human history is largely a story of people working together in groups to explore, achieve, and conquer. Yet, the modern concept of work in large organisations that developed in the late 19<sup>th</sup> and early 20<sup>th</sup> Centuries is largely a tale of work as a collection of individual jobs. A variety of global forces unfolding over the last two decades, however, has pushed organisations worldwide to restructure work around teams, to enable more rapid, flexible, and adaptive responses to the unexpected. This shift in the structure of work has made team effectiveness a salient organisational concern. Teams touch our lives every day and their effectiveness is important to well-being across a wide range of*



*societal functions. There is over fifty years of psychological research literally thousands of studies focused on understanding and influencing the processes that underlie team effectiveness.”*

(Kozlowski and Ilgen, 2006, p. 77)

Back in the early 20<sup>th</sup> Century job simplification was given increased momentum through the contribution of Frederick Winslow Taylor (1856-1915), who was described as “*the first man in history who did not take work for granted but looked at it and studied it in depth*” (Drucker, 1999, p. 29). As early as 1911 Taylor proposed managers were the only viable authority available to control an organisation (Waring, 1992) he also argued that a multi-layered management system was required to gain the highest levels of productivity and output from workers (Taylor, 1911). Furthermore, he believed that every single organisational function should be effectively under the managers total control (Gündüz, 2008), this promoted harder work and reduced laziness and featherbedding by employees (Clove and Goldsmith, 2002). This approach is the classical strategic management school of thought which determines that top-down management is formal and rational (Mintzberg and Lampel, 1999) and the process of work instruction always structured and linear (Andrews *et al.*, 2009; Walker *et al.*, 2010).

Taylor’s approach was termed the “*scientific management*” method, the theory is relatively simple, it embraces “*using scientific methods to define the one best way for doing a job*” (Robins and Stagg, 2006, p. 10). Its use became extremely popular very quickly, so-much-so that by the early half of the 20<sup>th</sup> Century it had touched almost every one of the worlds industrial nations with practically all organisations operating using this regressive and rather strict form of administration. So profound was Taylor’s impact on industry that he has been credited as the person who possibly did more than anyone else to change the way in which people worked in the 20<sup>th</sup> Century (Kanigel, 1997), albeit not necessarily for the better.

Not everyone agreed with Taylor’s principals of managing work, one notable critic was the prominent management scientist Henry Gantt (1861-1919) who initially worked with Taylor but later opposed his views on totalitarian management administration (Witzel, 2005). Gantt (1913) advocated workers should be allowed to ignore managerial instructions and help to improve work processes using their own ideas and initiative. He also believed complex information should be accessible to all workers, not just managers, arguing there were many advantages to be acquired by moving away from the rigid and unforgiving “*scientific*



*management*” model (Gant, 1913, p. 8) to one that was more flexible. Other challengers of Taylor’s methods include Rosen (1993, p. 139) who argued that the central assumption of “*Taylorism*” was that “*workers were taken for granted and treated simply as a cog in machinery*”, such conditions were found to encourage workers to become rebellious, uncooperative and resentful. Mullins (2004, p. 70) cautioned it gave managers “*a dangerously high level of uncontrolled power.*” While Parker *et al.* (2001, p. 414) found the approach lacked stimulation for workers and there was evidence that “*simplified jobs were boring, tiring and dissatisfying as well as potentially damaging to mental health.*” A typical manufacturing “*line*” operating under Taylors principal’s in the 1920’s is illustrated in Figure 1.3; the mundanity and roboticist functionality is clear to see:



**Figure 1.3:** Fredrick Winslow Taylor’s ‘Scientific Management’ method of working has been linked to several organisational and employee related welfare issues.

Source: Mulder (2015).

By the mid-1930’s conditions were ripe within the social science arena for a rapid advance in empirical research on work groups (Cartwright and Zander, 2000). It was during this time that the now famous Hawthorne Studies were conducted by Elton Mayo (1880-1949). Mayo (1933) and his research colleagues discovered that job satisfaction increased when employees were permitted to participate in some decision-making. Almost by accident, the findings of the study added legitimacy to some of Gantt’s previous suggestions and served to shake the principals of the “*scientific management*” system to its very core (Forsyth, 2010).



Events continued to develop and there was a decisive polar shift that occurred in the 1960's and 1970's when companies rapidly started to move beyond Taylor's principals. They cautiously took a leap of faith and started to embrace the concept of employee empowerment. Managers reacted by altering their leadership style accordingly to encourage workers to develop their own independence. The system closely represented a mixture of Kurt Lewin's (1890-1947) "*Group Dynamics*" and Douglas McGregor's (1905-1964) "*Theory X and Y*" models (Humphrey, Manor and Morgeson, 2009, p. 55). Both allowed workers more freedom to manage themselves, albeit under the guise of a more senior company member who held ultimate managerial authority, in effect there were equal forces of top-down and bottom-up pressure influencing the production of work (Ashraf, Berry and Shapiro, 2010).

By the mid-1990's teamworking had emerged as the management method of choice by an increasing number of organisations (Wech *et al.*, 1998). This was complemented by the rational that employees increasingly viewed their jobs as a means of personal fulfilment and not just a pay cheque (Sims and Manz, 1996). Teamworking was adopted into practice at several influential leading industrial organisations, including British Petroleum (BP), British Telecom (BT), Ford Motor Company, General Electric (GE), General Motor Company (GMC) and Procter and Gamble (P&G) as well as many others, almost all reported excellent improvements which were credited to teamworking.

The results reported were so successful that small and medium-sized companies soon began experimenting with some form or another of teamworking. Practically all companies found improvements, some proclaimed the results little short of astonishing. This is spectacularly summed up by Fisher (1994, p. 124; 2000, p. 69) who declared with much excitement and enthusiasm that the teamworking management model should be declared the beginning of a new "*industrial revolution*" due to its overwhelming effect on productivity. Other vocal enthusiasts include French and Bell (1995, p. 85) and The Economist (2016) who both proclaimed teamworking to be the "*building block of organisations*". Even Fortune Magazine (2009, p. 4) departed from its usual position of something of a sterile composure to one of almost fanatical support for the method, passionately touted teamworking as the "*productivity breakthrough of the 1990's*."

Teamworking is now a deeply entrenched system (Hackman, 2009) with many modern employees required to work as part of a team (Jungert, 2012). Amazingly, in just





under a century a momentous change in organisational management structures has occurred, one that has transformed workplace management from a costly bureaucratic colossus as advocated by Taylor to one that is far more employee focused, cost conscious and agile (Marchington and Wilkinson, 2002).

Today the world is moving into its fourth industrial revolution, once again change is likely to have a significant impact on industry. The modern-day dynamics organisations are being subjected to are changing faster than ever before, providing the “*impetus for rapid reform*” (World Economic Forum, 2017, p. 5). The opportunities and threats of this latest phase of industrialisation must be clearly understood by all organisations as “*we live in a time of great promise and great peril*” (Schwab, 2017, p. 1).

The research in this thesis took place an organisation which will be referred to as Company ‘A’, this is a pseudonym to protect the company’s identity. It has recognised that due to the latest industrial progression it is facing several unprecedented competitive forces, it is looking at ways to improve its chosen management method of teamworking to improve productivity. The organisation considers it imperative to its future success that it has a clear strategy for ensuring that the method is being practiced as efficiently and effectively as possible. To facilitate familiarity an historical overview will now be given on Company ‘A’ as well as examining the era of management change it has experienced recently driven by cost pressures.

## **1.5 Research Arena’s Background, Era of Change and Motivation for Research**

### **1.5.1 Historical Background**

Company ‘A’ is a major local employer based in South Wales, UK that operates within the aerospace services sector, its activities can be considered to fall within the High Reliability Operation (HRO) industrial category. The organisation is part of the extensive Welsh aerospace sector and a prevalent part of the industrial landscape in Wales that is currently enjoying a period of steady expansion. This is key to improving the competitiveness of the Welsh Economy (Wales Online, 2015). Presently the sector comprises of 160 companies that provides employment for approximately 23,000 people (Aerospace Wales, 2016). Therefore, it is deemed to be a major industry with the breadth of expertise considered to be nothing short of exceptional (Jones, 2013).



Company 'A' is part of a well-known multinational who took ownership of the facility in 1991. The parent conglomerate is a rather complex mix of different businesses that operate within multiple divisions (ge.com, 2018)<sup>2</sup>. The company describes its aviation branch as a *“world-leading provider of commercial, military and business and general aviation jet and turboprop engines and components as well as avionics, electrical power and mechanical systems for various aircraft”* ([REDACTED], 2018)<sup>3</sup>. After purchasing the facility, the parent company considered the management structure they inherited to be inefficient, excessive and relatively complex with common duplication of roles present within the six-tier configuration. It comprised of a hierarchal structure of aircraft engineers, supervisors, superintendents, foremen, senior management and finally the managing director in order of responsibility and seniority, this was antiquated, top-heavy and found to be extremely costly.

The organisation has a chequered history with the function of aircraft engine overhaul initially coming to South Wales due to World War II. The wartime government set up an engine overhaul facility at the present site in 1941 when it was decided to move the Royal Air Force (RAF) engine overhaul operations from Croydon, South-East London to South Wales, because of the relentless bombing the RAF facilities were experiencing in the capital. Consideration for the security of such a strategically important site was given the highest priority, as it was responsible for overhauling the Rolls-Royce Merlin engine that powered the now famous Spitfire aircraft, the backbone of the RAF and essential to the war effort. After evaluation of many sites up and down the UK and much deliberation, the present site in South Wales was chosen, it was considered an excellent location to place such a strategically important facility due to its often-dense cloud cover and high mountainous terrain that obscured the site from potential enemy bombing. The chosen management method of employees at the time was very regimental and operated using methods that closely resembled Taylor's *“scientific management”* principals.

When the war finished the site ceased overhauling military engines and stood idle for a few months prior to being sold by the Government in 1946 to British Imperial Airways (BIA) which later become British Airways (BA). BIA started overhauling its own fleet of civil aircraft engines as well as offering services to other airlines from the rapidly developing commercial aviation sector. The predominant aircraft of the day was the De-Havilland Comet, the world's

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<sup>2,3,4</sup> Reference removed to preserve the research venue's organisational identity.



first commercial passenger airliner powered by the Rolls-Royce Avon engine and the Bristol Britannia powered by the Bristol Proteus engine. During this time, the facility was overhauling around 100 Avon and Proteus engines a year. The company operated using a hierarchical management system with a complex structure of shop-floor personnel, supervisors, foremen, superintendents, senior managers and managing director.

The site continued operating at the same manner throughout the 1950`s and 1960`s, then a major expansion occurred when the US based aircraft manufacturer Boeing introduced the mighty 747-100 in 1969. With the launch of this high capacity aeroplane the era of affordable air travel was born as the costs associated with flying were significantly reduced. This resulted in air travel no longer being only a luxury that only the more fortunate in society could afford. Over the next decade the aviation industry and the facility itself expanded rapidly and the former increased in prominence. Company 'A' at this point was offering overhaul services for all predominant civil aircraft engines in operation, they include the JT3-D, JT8-D, JT9-D, Olympus 593-610 and RB211-524, -535 variants, along with providing support for the military Conway-301 powerplant and some Auxiliary Power Units (APU) models and ceased to offer services for Avon and Proteus engines.

In the Summer of 1991 BA`s long presence at the site ended when the airline put the site up for-sale. The organisation wanted to concentrate on its flying operations alone and pull out of all engine maintenance related activities. Initially, there was little interest in the prestigious site, but a bidding war soon broke out between two of the world`s most famous aircraft engine suppliers, one a British company and the other a US based large industrial conglomerate. The latter clinched the deal and completed the purchase in October 1991.

In 1992 the new owners quickly set about reviewing the deeply-entrenched hierarchical management system and proposed the introduction of a new radical system of teamworking and a new product, the CFM-56-3. This was combined with selling off some of the loss-making services offered by the business. The organisation concentrated on growing the remaining products offered and signed many new JT8D, JT9D and RB211 contracts with several major operators. The management structure was indeed slashed, and teams were introduced, the speed of change did attract some criticism as it was executed almost overnight. Crucially, to ensure the future security of the facility new products were introduced such as the new cutting edge fuel-efficient CFM-56-5; -7 and GE90 series of engines. The site also retained the kudos



of being the sole overhaul supplier for the Olympus 593-610 engine that powered the world-famous Concorde aircraft. Expansion continued until there was an unexpected downturn in the aviation industry caused by the events in September 2001. A full review of products was again completed, and the decision was made to pull out of the JT8-D and JT9-D markets. In 2003, the site again experienced further contraction when it decommissioned the Olympus 593-610 production line due to the retirement of the much-envied Concorde.

With the onset of higher fuel costs and multiple privatisations airlines become far more cost conscious. The earlier decision by the organisation to implement capability for the CFM-56-5; -7 and GE90 engines paid large dividends as sales of services for these products accelerated rapidly. This offset much of the work lost by the retirement of the older engine types, nevertheless, these were challenging times for the facility and over 600 jobs were lost.

Today, growth has returned, and the company currently offers full repair and overhaul services for a range of different engine types including the Rolls Royce (RR) RB211-524, the General Electric (GE) GE90 series and the CFM56-5B, and -7B engines. The latest addition to the sites capability is the Engine Alliance (EA) GP7000 engine which is the power plant for the Airbus A380 “*Superjumbo*”. The facility has a worldwide reputation within the aviation sector for excellent quality and timely delivery. It possesses a highly skilled, motivated workforce who produce a very high-quality product that can achieve considerable Time on Wing (TOW). The current workforce is approximately 1,500 permanent employees and has capacity to overhaul more than 400 large fan aircraft engines per year.

Table 1.1 shows a summary of the significant periods that Company ‘A’ has experienced since 1924, this is combined with the management method in operation at the time, key milestones and the principal activities of production personnel and management.

***Table 1.1:*** A comparison of the chosen research arena’s significant periods, key milestones and adopted management practices to the principal activities of production area personnel and management.

<i>Period</i>	<i>Adopted Management Practice / Key Milestones</i>	<i>Principal Activities of Production Area Personnel</i>	<i>Principal Activities of Management</i>
<b><i>Inter-War Years</i></b> <b><i>1924-1939</i></b>	<ul style="list-style-type: none"><li>• Beginning of aircraft engine overhaul services.</li><li>• Employees arranged in a strict system of scientific management.</li><li>• Facility is non-unionised.</li></ul>	<ul style="list-style-type: none"><li>• Perform maintenance tasks on commercial aircraft engines.</li></ul>	<ul style="list-style-type: none"><li>• Control all aspects of production.</li></ul>



<b>World War II</b> <b>1939-1945</b>	<ul style="list-style-type: none"> <li>• Relocation of aircraft engine overhaul facility from Croydon, East London to South Wales.</li> <li>• Employees arranged in a strict system of scientific management combined with input from RAF personnel.</li> </ul>	<ul style="list-style-type: none"> <li>• Perform tasks on military aircraft engines.</li> </ul>	<ul style="list-style-type: none"> <li>• Control all aspects of production with ultimate authority owned by the RAF.</li> </ul>
<b>Immediate Post-War</b> <b>1945-1946</b>	<ul style="list-style-type: none"> <li>• Re-commencement of commercial aircraft engine overhaul services.</li> <li>• Transition back to a fully civilian strict system of scientific management.</li> </ul>	<ul style="list-style-type: none"> <li>• Perform maintenance tasks on military and commercial aircraft engines.</li> </ul>	<ul style="list-style-type: none"> <li>• Control all aspects of production with additional emerging responsibilities involving EHS and quality.</li> </ul>
<b>Post-War</b> <b>1946-1991</b>	<ul style="list-style-type: none"> <li>• Employees arranged in a strict system of scientific management consisting of a complex hierarchy of aircraft engineers, supervisors, superintendents, foremen, senior managers and managing director.</li> <li>• Facility is unionised, and aircraft engineers are subject to a collective bargaining agreement.</li> </ul>	<ul style="list-style-type: none"> <li>• Perform maintenance tasks on military and commercial aircraft engines.</li> </ul>	<ul style="list-style-type: none"> <li>• Control all aspects of production, EHS, quality and tooling.</li> </ul>
<b>Era of Change</b> <b>1991-1992</b>	<ul style="list-style-type: none"> <li>• Facility is acquired by an American multinational.</li> <li>• Management structure reviewed.</li> </ul>	<ul style="list-style-type: none"> <li>• Performing maintenance tasks on commercial aircraft engines.</li> </ul>	<ul style="list-style-type: none"> <li>• Control all aspects of production, EHS, quality and tooling combined with some facilitation activity.</li> </ul>
<b>Introduction of 1<sup>st</sup> Phase of Teamworking</b> <b>1992-2013</b>	<ul style="list-style-type: none"> <li>• Supervisors, Superintendents and Foreman replaced with a new system of teamworking.</li> <li>• Introduction of EHS, quality, lean, production and tooling 'Starpoint' team roles and responsibilities.</li> <li>• Establishment of a 'works council', a partnership between the union and senior management at the facility.</li> <li>• At the end of this period a one-off brief training intervention was delivered.</li> </ul>	<ul style="list-style-type: none"> <li>• Perform maintenance tasks on commercial aircraft engines.</li> <li>• Participate in EHS, quality, lean, production and tooling 'Starpoint' team roles and responsibilities.</li> </ul>	<ul style="list-style-type: none"> <li>• Provide facilitation to production teams.</li> </ul>
<b>2<sup>nd</sup> Phase of Teamworking</b> <b>2013-Present</b>	<ul style="list-style-type: none"> <li>• Teamwork is a deeply entrenched method of working.</li> <li>• A significant review is undertaken to determine the future of teamworking and assess ways to increase team autonomy.</li> </ul>	<ul style="list-style-type: none"> <li>• Perform maintenance tasks on commercial aircraft engines.</li> <li>• Responsible for EHS, quality, lean, production and tooling 'Starpoints'.</li> <li>• Assume further responsibility for chemical management, ergonomics, apprentice mentoring and have input on teamworking progression.</li> </ul>	<ul style="list-style-type: none"> <li>• Provide facilitation and coaching to production teams.</li> </ul>

Source: Developed for this Research (2018).

### **1.5.2 The Era of Management Change and Associated Cost Pressures**

The three tiers the organisation removed in 1992 included supervisors, superintendents and foremen all of which were replaced by the new system of arranging work in teams. The introduction of teams at Company 'A' had huge consequences for the



production-based personnel who were put in charge of their own sections and given responsible for maintaining production. A minimal white-collar support structure was left in place to aid with essential non-production related activities such as quality, health and safety and offer engineering expertise when needed. The adopted strategy was a comprehensive effort to move decision-making as close to the product as possible by delegating authority, responsibility and accountability to front-line workers (██████████, 2017)<sup>4</sup>. Company 'A' like *"every organisation and business want to be successful and has the desire to achieve long-lasting progress"* (Abbah, 2014, p. 1). The strategic shift it has undertaken to embrace teamworking was designed to increase the organisations competitiveness in the global economy, aid cost reduction efforts, increase performance, productivity and promote employee wellbeing as well as putting into place a modern, lean method of working.

The impetus to further lower costs to remain economical is still one of the highest priorities at the organisation due to the fierce competition it is experiencing from other maintenance providers who are based in lower cost economies. Such providers have begun to *"aggressively target engineering work traditionally carried out in Western Europe and North America... this is a threat to South Wales's extensive MRO sector"* (Flight Global, 2016, p. 1). It is envisioned that the competitive pressures will increase as the emerging markets continue to maintain extensive growth (Boeing, 2016) due to the rapid expansion of air travel in such regions (PricewaterhouseCoopers, 2015) and a substantial desire to become self-sufficient in MRO activity and offer services to customers from further afield.

To put it into perspective the emergence of the competition is quiet staggering. Some countries have expanded from possessing non-existent or relatively benign aviation industries to becoming world leading airlines offering comprehensive MRO services in under a decade. The market for MRO services worldwide is estimated to be worth approximately US\$ 1.8 trillion<sup>5</sup> over the next twenty years (Airbus, 2016), so there is a significant amount of money at stake. To maintain and grow its share of this market Company 'A' needs to improve productivity by completing engine service visits quicker so expensive assets are idle for less time and reduce the costs of the services it provides. This will result in a reduction in the primary measure of plant competitiveness used within the organisation known as Operational

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<sup>5</sup> \$1,800,000,000,000 or £1,412,460,000,000 this is correct at \$1=£0.78, the official foreign exchange rate effective 12.06.2017 (Bureau of Fiscal Services, 2017).





Cost per Hour (OCPH). Fundamentally the lower the OCPH level the more competitive the organisation is and the more business it will attract. The measure is a product of the total annual overheads [cost] divided by total billable hours that are charged to customers for repair and overhaul services [income]. The equation that is a product of this simple calculation is illustrated in Figure 1.4:

$$\text{Operational Cost Per Hour (OCPH)} = \frac{\text{Total Annual Overheads}}{\text{Total Billable Hours}}$$

**Figure 1.4:** Operational cost per hour (OCPH) is a fundamental business measurement at Company 'A' it is a direct product of two key variables.

### **1.5.3 Personal Motivation for Undertaking Research on Teamworking**

From the researcher's personal perspective there are several factors that compelled the investigation of teams at Company 'A'. He had observed over many years that numerous team members would frequently discussed the state of teamworking amongst themselves on a casual basis. It was a very popular topic of conversation and there was clearly some frustration present with the way the method was running at the facility.

The researcher concluded some time ago that on balance the population of production-based team members are experts in the teamworking method as they have been practising it for a significant period. It was clear they were a valuable resource which up to this point had remained untapped and never consulted about their ideas on improving teamworking.

The researcher recognised there was an opportunity present to undertaken research that would harness the members extensive team-based knowledge and experience. He strongly believed that such an investigation would yield some valuable findings and lead to improvements in the way teams operate. After conducting several informal exploratory discussions, it became clear that many team members felt disenfranchised and wanted a "voice" on how teamworking was directed, they had many novel ideas how it could be progressed in a positive manner. It also become apparent that team members have never once been asked to offer their input prior to this study.

Many team members were extremely enthusiastic to discuss the matter and appreciated being given the time and opportunity to offer their outlook on teamworking. This was clear because the discussions quickly turned into very lengthy and passionate in-depth exchanges with an increasing number keen to get involved. This community also expressed their sincere



disappointment that the method had remained unchanged for a prolonged period pointing out that there had been no major alterations made to teamworking since its initial launch in 1992.

A further reason for the researcher instigating this study was driven by a more personal objective. He is a stakeholder in the organisation having been an employee for over 26 years so is directly affected by its ensuing success or failure. During his career he has been deeply involved with teamworking and is a member of a team himself. He also shares his fellow team members enthusiasm for making the method as efficient as possible. He believes that improving teamworking can lead to a net reduction in OCPH which is a vital to the future prosperity of the organisation and its employees.

The researcher decided to act firmly on his observations and focus the appetite of his fellow colleagues for change by making the study a reality. He approached the organisations Human Resources (HR) department to discuss the viability of performing a voluntary study exclusively with the production area team members, arguing this would give them the conduit they needed to share their ideas of what inhibits teamworking. After some persuasion the HR department agreed that the matter was worthy of further investigation and the research was given approval to commence. At this point the researcher decided that it was practical to combine the study with a DBA and applied for sponsorship from the organisation which was granted. As the researcher had accomplished previous studies at the University of South Wales a request was made to enrol on the universities DBA program of which permission was forthcoming. A proposal was submitted, and ethical approval sought, both were granted and finally the study could begin. Now the personal motivation for undertaking the study has been outlined the research aims and objectives will be discussed.

## **1.6 Research Aims and Objectives**

### **1.6.1 Research Aim**

The research aim is to explore what is currently inhibiting teamworking at Company 'A', which is a safety critical organisation. It will provide an enhanced understanding of how teamworking can be improved and assist ongoing efforts to progress the method of working. This will help to reduce costs and enable the facility to compete more aggressively against other engine overhaul providers who operate in a more cost-effective environment and have become increasingly dominant; which is posing a genuine threat to the future of aviation maintenance related activities in South Wales. The results will also seek to improve employee





well-being and working conditions by putting forward recommendations for changes to present practice. The aim will be accomplished using an incremental approach by the careful execution of several objectives.

### **1.6.2 Research Objectives**

There are several objectives that must be met to ensure the research aim is accomplished and a worthwhile contribution achieved, meeting the objectives also helps researchers to manage the process in an incremental manner. The objectives pertinent to this research are outlined in Table 1.2.

**Table 1.2:** *The research objectives pertinent to this investigation.*

<b><i>Stated Objectives</i></b>
<ul style="list-style-type: none"> <li>• <i>To identify an area of study that is worthwhile and provide a 'voice' for production area personnel who are involved in teamworking daily at Company 'A', allowing them to share their opinion on the current process.</i></li> </ul>
<ul style="list-style-type: none"> <li>• <i>Identify a research problem and research questions. The research questions will be formulated by employing a multi-faceted strategy which will consider the present body of teamworking literature and what is important to the team members and the organisation.</i></li> </ul>
<ul style="list-style-type: none"> <li>• <i>Complete an analysis and assessment of the three pertinent management methods that have been in operation at Company 'A' relatively recently within the areas of interest investigated in the literature review. This will to enable a determination to be made of what is the overall management method presently occurring in practice at Company 'A' in later chapters.</i></li> </ul>
<ul style="list-style-type: none"> <li>• <i>Identify, approach and recruit a suitable population of production area personnel who have been arranged into teams for a significant period for data collection purposes.</i></li> </ul>
<ul style="list-style-type: none"> <li>• <i>Identify emergent themes by undertaking an analysis of the collected data. Evaluate the results achieved within the parameters of the emergent themes to determine if they support or challenge the relevant teamworking literature and compare to what is occurring in practice at Company 'A'.</i></li> </ul>
<ul style="list-style-type: none"> <li>• <i>Share the findings with the facilities management and teams to identify what inhibits teamworking at the facility. Evaluate leverage to other facilities and possible publication of a condensed paper.</i></li> </ul>

*Source: Developed for this Research (2018).*

The research problem and research questions will now be discussed.

## **1.7 Research Problem**

### **1.7.1 Research Problem and Questions**

Researchers must identify what they want to know by identifying a research problem (Sullivan, Daly and O'Donovan, 2012). The problem that will be tackled by this research is:

***'What inhibits teamwork in safety critical organisations?'***



During investigation the research problem is examined, analysed and challenged to provide relevant information (Wood and Ross-Kerr, 2006). It is the “*single most important component of a study... the keystone of the entire exercise*” (Bordage and Dawson, 2003, p. 378).

Teamworking is a huge subject with a significant amount of literature readily available. To ensure the study is manageable the pool of relevant information must be subject to a process of reduction, so some focus is provided, this is achieved by establishing specific research questions (Creswell, 2014). To ensure a satisfactory outcome is achieved there must be an identifiable connection between the research questions and the problem that initially inspired the study (Kerlinger and Lee, 2000). Following this model provides a solid basis for gathering information (Bogdan and Biklen, 2006; Calabrese, 2006). The research questions should also “*represent the facets of an empirical domain that the researcher most wants to explore*” (Miles and Huberman, 1994, p. 23) and effectively “*set the boundaries*” (Strauss and Corbin, 1999, p. 37) of the study. This stops researchers wandering from their original intent, keeps the emphasis on the topic of study, the methodological base and the technical instruments that are being employed to acquire knowledge (Corbetta, 2003).

The solutions of the research questions permit researchers to contribute towards solving the research problem (Emory and Cooper, 1991) allowing the study aims to be met (Leedy and Ormrod, 2005). This helps to make the transition from “*knowing less*” to “*knowing more*” a more fruitful and productive expedition (Payne and Payne, 2004, p. 114). In this study five questions will facilitate a contribution to the overall research problem, they include:

- 1) Do individuals believe they have received adequate training to allow them to fully engage in teamworking?*
- 2) Are the current team roles and responsibilities relevant and worthwhile?*
- 3) Would incentives have a positive or negative effect on team performance and productivity?*
- 4) What do team members feel about the present team decision-making processes, is it fair and effective?*
- 5) Is the present role of middle management complementary to the teamworking strategy, inhibit it or have little or no influence?*

The research questions were developed from areas of interests that were revealed by employing a multi-faceted approach. The first demanded an analysis of the teamworking literature to determine what matters were the most pertinent. This analysis revealed three areas



of significant interest including team training, team roles and responsibilities and team decision-making processes. These all have a connection with the present team processes within Company 'A' and were confirmed as areas of further interest.

Secondly, an informal data gathering exercise was conducted with several teams at Company 'A'. The exploration asked what mattered most to the teams and their members in their everyday teaming activities. They concurred that the three areas identified already were significant to themselves and their teams and they added an additional element they thought would be beneficial to further explore. This was concerned with what role do middle management play in an organisation that has embraced teamworking such as Company 'A'. This matter was deemed to be of interest and added to the list of appropriate topics that would be subject to further investigation.

Third and finally, a discussion was held with the organisations HR Leader at the time (*who has now moved on to a new position*) to consider any requirements of the organisation. During the discussion it was agreed that the four matters already raised were worth exploring and a further area of enquiry was also requested. The opinion of the team and their members on the introduction of an incentive scheme would be of further interest to the management at the organisation. A verification exercise was undertaken with the production area teams and they agreed that incentives was also a beneficial topic to explore.

After assessment the five areas of interest were further developed into relevant research questions that will provide credible contributions to the overall research problem. The execution of these is manageable using the available resources within the set time constraints. An overview of the thesis structure will now be given.

## **1.8 Overview of the Thesis Structure**

### **1.8.1 Summary of Thesis Structure and Roadmap**

The thesis is divided into two principal sections, prefatory and text parts for simplicity. The prefatory parts contain the thesis cover, formal information and front matter, the text parts contain six chapters from the thesis introduction to conclusion and the list of applicable references and any appendices. A "*thesis map*" is presented at the start of each chapter to clearly outline the progression for the benefit of the reader. For further convenience and clarity, all chapters and major sections are signposted.



## **Prefatory Parts**

### **1) Front Matter**

## **Text Parts**

### **2) Chapter 1: Introduction.**

### **3) Chapter 2: Review of Literature.**

### **4) Chapter 3: Methodology.**

### **5) Chapter 4: Analysis of Findings.**

### **6) Chapter 5: Discussion.**

### **7) Chapter 6: Conclusions and Recommendations.**

### **8) References.**

### **9) Appendices.**

A description of the contents of the front matter, each chapter, the reference list and appendices will now be briefly summarised in Table 1.3 after which this chapter will conclude.

**Table 1.3:** A summary of the various components contained in the thesis.

<b>Part</b>	<b>Section Title / Contents</b>	<b>Summary</b>
<b>Prefatory Parts</b>	<b>Front Matter</b> <i>Preamble</i>	<ul style="list-style-type: none"> <li>This section contains all the formal components that are required in a thesis e.g. cover page, introductory and personal quotes, statement of copyright, statement of originality, dedication, acknowledgements, abstract, table of contents, figures, symbols and appendices.</li> </ul>
<b>Text Parts</b>	<b>Chapter 1</b> <i>Introduction</i>	<ul style="list-style-type: none"> <li>This chapter introduces teamworking and its adoption by mainstream industry. The research environment and its teaming journey are briefly discussed. The research aims, and objectives are stated as well as the research problem and supporting questions, an overview of the thesis content is given, prior to the chapter closing by drawing conclusions.</li> </ul>
	<b>Chapter 2</b> <i>Review of Literature</i>	<ul style="list-style-type: none"> <li>This chapter offers a review of relevant teamworking literature to highlight and understand the key aspects of the chosen subject. Furthermore, it identifies areas of importance that possibly have an impact on teamworking within the relevant context. This was executed by performing an analysis to understand what gaps exist in the current teamworking literature. Overall this chapter sets the scene for the remainder of the thesis by outlining the broader field within which the research is embedded, prior to drawing chapter conclusions.</li> </ul>
	<b>Chapter 3</b> <i>Methodology</i>	<ul style="list-style-type: none"> <li>This chapter discusses the paradigmatic and methodological considerations applicable to this research and explores key areas that impact data collection. The study is outlined, and an evaluation of the thematic analysis method is made to ensure its suitability to the data set collected. Further topics discussed include transcription, saturation and sample size and the ethical framework employed, prior to drawing chapter conclusions.</li> </ul>
	<b>Chapter 4</b> <i>Analysis of Findings</i>	<ul style="list-style-type: none"> <li>This chapter offers a discussion on the five emergent themes that were generated by performing a thematic analysis of the transcribed data. Such themes are products of the successful analysis and application of the chosen research design and collection of data undertaken in a valid and reliable ethical manner, the chapter then concludes.</li> </ul>
	<b>Chapter 5</b> <i>Discussion</i>	<ul style="list-style-type: none"> <li>This chapter is concerned with the analysis of the findings. It draws comparisons, highlights objections to existing literature and offers recommendations for change</li> </ul>



		<i>to current practice being undertaken at the chosen research arena, prior to drawing chapter conclusions.</i>
	<b>Chapter 6</b> <i>Conclusions and Recommendations</i>	<ul style="list-style-type: none"> <li>• <i>This chapter concludes the study and offers a summary of the thesis. It reflects on the research process, identifies limitations, as well as suggesting future research opportunities that could further evolve the topic and increase our understanding of the matter under investigation. It also provides a list of practical recommendations and theoretical propositions to satisfy the research aims and objectives. Finally, a brief critical reflection of the entire process is offered, what it means to the researcher and what could have been organised differently if the study was repeated, this chapter closes.</i></li> </ul>
	<b>References</b> <i>Citations</i>	<ul style="list-style-type: none"> <li>• <i>Not categorised as a chapter, this section contains all applicable references that have been employed throughout the text to put the study into context.</i></li> </ul>
	<b>Appendices</b> <i>Addendums</i>	<ul style="list-style-type: none"> <li>• <i>Not categorised as a chapter, this section contains all applicable references that have been employed throughout the text to put the study into context.</i></li> </ul>

*Source: Developed for this Research (2018).*

## **1.9 Chapter Summary**

### **1.9.1 Summary**

At the beginning of the 20<sup>th</sup> Century the authoritarian “*scientific management*” style of working was widely practiced and solidly embedded in almost all organisations. A paradigmatic shift then occurred when there was a departure from the traditional system of strict command and control of workers (Drucker, 1988) to one of arranging them into teams. This signified the beginning of the end for the antiquated system of directing staff via a top-down management style. Today, the seismic shift is complete and almost all organisations have embraced team-based work structure in one form or another (Sundstrom *et al.*, 2000; Muthusamy, Wheeler and Simmons, 2005).

The world of commercial aviation industry is no exception (Kanki, Helmreich and Anca, 2010) to the continued integration of teams into organisations (Devine *et al.*, 1999; Lawler, Mohrman and Benson, 2001; Littlepage *et al.*, 2016). Consequentially this study was developed to investigate what inhibits teamwork in such safety critical organisations. The chosen research arena is a significant employer based in South Wales, United Kingdom and major contributor to the UK economy. Referred to as Company ‘A’ throughout the study this is a pseudonym that has been employed to protect the organisation as they are sensitive about revealing their identity.

Employees at the organisation are a valuable resource that have been practicing the teamworking method for a period of over twenty years and are therefore considered to be relatively mature in teaming terms. The practice was introduced somewhat swiftly during a



period of intense change when the former bloated hierarchical management system was replaced by a flatter structure where employees become empowered to make decisions about a whole host of former management functions. These include production, health and safety, quality, lean and tooling, these functions are still the responsibility of the teams albeit they are offered some support by a limited number of clerical staff. For many employees such autonomy was the first time they had any influence on both the organisational strategy and the proportion of the part they choose to play within it, depending on their personal attributes, motivation and career desires which are unique for each team member. This study aims to tap into the vast pool of available knowledge by considering the opinion of members on ways to improve the present structure of the teamworking method being practiced at Company 'A' and beyond. Now the area of research has been introduced a review of relevant literature will be undertaken in the next chapter.

\*\*\* End of Chapter 1 \*\*\*



## ~ Chapter 2 – Review of Literature ~



## CHAPTER

# 2

## 2.0 REVIEW OF LITERATURE

***“NOTHING CAN STOP THE MAN WITH THE RIGHT MENTAL ATTITUDE FROM ACHIEVING HIS GOAL...”***

***~ Thomas Jefferson***

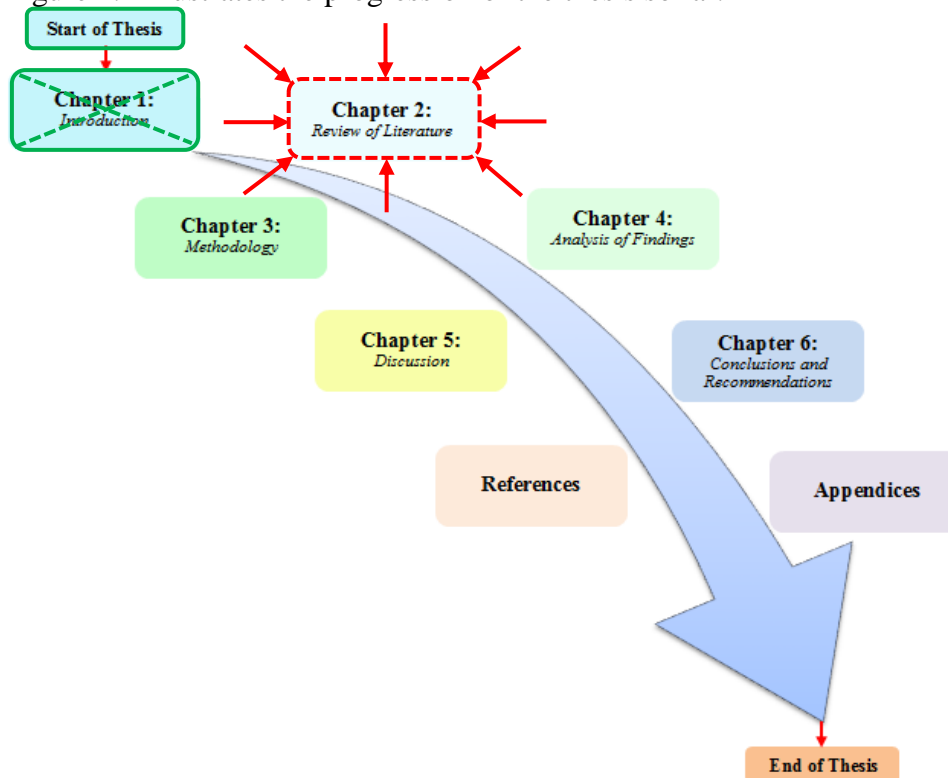
***(1743-1826)***

*American Founding Father, Principal Author of the Declaration of Independence, 3<sup>rd</sup> President of the United States*

### 2.1 Thesis Progression

#### 2.1.1 Progress Map

The second chapter documents the review of literature undertaken during the research. Figure 2.1 illustrates the progression of the thesis so far.



***Figure 2.1:*** This chapter is concerned with a review of relevant teamworking literature.

### 2.2 Chapter Introduction and Objectives

#### 2.2.1 Introduction

In this chapter an analysis was performed on relevant teamworking literature within the confines of the matters raised by the research questions. The principal objective of the exercise is to identify gaps that are worthy of further investigation. It is the identification of





such gaps that underpin the whole purpose of performing a study such as this. Addressing the gaps progresses our understanding of such matters in which we are missing knowledge, the solution provides the contribution to knowledge or practice or forms a combination of the two.

It will come as no surprise that ever since the mass adoption of teamworking researchers have been very interested to establish exactly what benefits or challenges the method offers stakeholders (Mickan and Rodger, 2000; Henderson and Walkinshaw, 2002). Indeed, over the past few decades the interest in the advantages and disadvantages associated with teamworking has increased dramatically (Macy and Izumi, 1993; Cohen and Bailey, 1997). The acquisition of knowledge continues a large scale and still consumes significant sustained academic attention (West and Markiewicz, 2004). Despite the abundance of teamworking literature readily available, research in the matter has not reached maturity nor does it show any signs of declining. This is due to the complexity of teams which are dynamic in nature and continually adapting (McGrath, Arrow and Berdahl, 2000), therefore the associated knowledge must follow suit and continue to adapt. Part of this adaptation is testimony to the complex ever-changing, turbulent business environment that modern organisations face. This is the very nature of contemporary organisational life (Mielonen, 2011), driven by many variables, constantly changing cycles of new or additional team members, team growth or contraction, modification of roles and responsibilities or changes to the organisational contexts or structure in which they are forced to operate within. This constant state of flux means research in teams continues to be one of interest especially since the adoption of the method continues to grow substantially (Loughry, Ohland and Woehr, 2013), a trend that looks likely to continue unabated well into the future.

Regarding the execution of a literature review the process of disseminating relevant information is a relatively complex task and a very important part of the research process. The existence of a large portfolio of literature means there must be a process of refinement completed by researchers when undertaking such reviews. They must be prepared to make strategic and informed decisions of what to include and what to exclude, a process that can take practice to be proficient in. Such choices must be carefully executed as the final content of a literature review is essential to ensure the theoretical framework is constructed in an appropriate manner that is pertinent to the desired areas of study; this obviously has critical



consequences for the rest of the study. It is granted as being a very time-consuming process due to the colossal amount of information that must be disseminated. This can be quantified by performing a simple search of the key themes associated with teamworking. The results achieved will reveal literally thousands of papers that involve countless theoretical positions and/or empirical studies which have enjoyed extensive examination in the academic literature (Kaiser, 2009), giving the reader an idea of enormity of the required task.

### **2.2.2 Objectives of the Chapter**

In this chapter, initially definitions are proposed for the key terms pertinent to teamworking to ensure the reader is aware and the researcher remains consistent in their application throughout the study. A discussion is then held on some of the advantages and disadvantages associated with the teamworking method. Then an in-depth review of some of the fundamental areas of teamworking that were identified in chapter one will be completed, these areas include team training, team roles and responsibilities, the role of incentives in teamworking and team decision-making processes. The literature review will now begin by defining some key terms associated with the practice.

## **2.3 Review of Teamworking Literature**

### **2.3.1 Definition of Key Terms**

There is significant variation found in the application of some key teamworking terms that are frequently used in the associated literature. This adds to the already present complexity of performing an analysis of relevant literature. Three key terms namely “*team*”; “*teamwork*” and “*team member*” will now be defined within the context of this study to ensure consistency.

The meaning of the term “*team*” has often been questioned and their remains much confusion in the literature as to what the actual definition really is, it is therefore inevitable there have been consistent requests made for much greater clarity (West and Lyubovnikova, 2013). There have been various attempts made to define “*team*” (e.g. Alderfer, 1977; Hackman, 1987; Salas *et al.*, 1992; Hollenbeck *et al.*, 1995; Guzzo and Dickson, 1996; Kozlowski *et al.*, 1996; Kozlowski *et al.*, 1999; Kozlowski and Bell, 2003). Although some of the explanations share similar attributes they also include subtle differences (Guzzo and Dickson, 1996) which adds to the confusion. After much deliberation the researcher has decided to adopt the definition proposed by Forsyth (2010, p. 143) who describes a “*team*” as



a “structured groups of people working on defined common goals that require coordinated interactions to accomplish certain tasks.” Support for this is offered by Franz (2004) who designates a “team” as two or more people working together on a specific goal through interrelated activity.

It is also difficult to arrive at a single definition for “teamwork” (EFILWC, 2007; West and Lyubovnikova, 2013)<sup>6</sup>, for this study it can be generalised as a “cooperative process that allows ordinary people to achieve extraordinary results” (Scarnati, 2001, p. 5). Which is a “dynamic, simultaneous and recursive enactment of process mechanisms which inhibit or contribute to team performance and performance outcomes” (Salas, Nichols and Driskell, 2007, p. 190).

Finally, such actions are performed by “team members”, which is another term that is prevalent in the teamworking literature that lacks a clear definition (McIntyre and Salas, 1995). For this study “team members” are described as “employees who have at least some collective tasks... and are authorised to regulate mutually the execution of these collective tasks” (Delarue, 2003, p. 7).

### **2.3.2 Advantages of Teamworking**

In the UK, teamworking was initially endorsed by a handful of pioneering industry leading organisations such as BP, BT, Imperial Chemical Industries (ICI), the National Coal Board (NCB) later British Coal Corporation (BCC) [now defunct], National Health Service, (NHS), GE, Toyota, Nissan, Ford, Airbus Corporation and British Steel Corporation (BSC) which later become Tata Steel amongst others. This provided the initial impetus for others to follow (West and Markiewicz, 2004) which has resulted in many companies now using some form of teamworking (Lawler, Mohrman and Beson, 2001; Kozlowski and Bell, 2003; Hills, 2007).

There is significant support in the literature of the alleged positive outcomes associated with teamworking (Hackman, 1991; Cascio, 1995; Cohen, Ledford and Spreitzer, 1996; Sims and Manz, 1996; Hayes, 2008; Nielsen and Randall, 2012). The popularity of the method is testimony to the fact that many organisations clearly agree and have found teams

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<sup>6</sup> The European Foundation for the Improvement of Living and Working Conditions (EFILWC) is a European Union (EU) tripartite agency that provides knowledge to assist in the development of better social, employment and work-related practices (Eurofound, 2017).



to be a source of success (Solansky, 2008) and highly beneficial (Druskat and Wheeler, 2003). The widespread deployment of the method is a direct result of the many advantages found when workers are arranging in teams (Delarue, 2003) with most organisations clearly finding them to be more efficient than when individuals work alone (Hoegl and Gemuenden, 2001). Indeed, many consider them to be central to achieving maximum organisational effectiveness (Van Wanrooy *et al.*, 2011). Some companies have even reported that they have achieved optimal productivity and exceeded their specified organisational targets, goals and objectives far quicker than expected (Peeters *et al.*, 2006); along with other significant benefits which they attribute to teamworking (LePine, 2003). Companies have found teamworking enhances organisational dimensions, improves flexibility, learning and employee motivation (Knights and Willmott, 2007), they have been shown to experience lower rates of employee turnover (Glassop, 2002) and increased industrial harmony (Wood *et al.*, 2011) which refers to a friendly and more cooperative agreement on working relationships between employers and employees for their mutual benefit (Otobo, 2005; Osad and Osas, 2013). This is obviously advantageous when both parties willingly work together to achieve the organisations commercial objectives, this has been found to create a higher levels of employee satisfaction and enhanced labour productivity (Puttapalli and Vuram, 2012; Akuh, 2016). The very reason why teamworking quickly become one of the most significant management fashions (Hayes, 1997), and the trend in many organisations (West, 1996; West, Borill and Unworth, 1998).

Other benefits attributed to teamworking include its constructive effect on many other organisational variables, such as innovation (Gibson and Gibbs, 2006), financial performance (Keck, 1997; Carpenter, 2002;) and customer satisfaction and sales (Schneider *et al.*, 2005), it is also claimed “*people make fewer errors when they work in teams*” (Kohn, Corrigan and Donaldson, 2000, p. 173). Furthermore, teams can assist organisations in lowering its costs (Cohen and Ledford, 1994) allowing greater productivity (Eden, 1990; Wageman, 1995; Dunphy and Bryant, 1996; Benders *et al.*, 1999; Doorewaard, Van Hootgem and Huys, 2002; Glassop, 2002; Somech, 2005) and increase levels of product or service quality (Deming, 1986; Parker, 1990; Hackman, 1991; Benders *et al.*, 1999; Doorewaard, Van Hootgem and Huys, 2002; Glassop, 2002; Somech, 2005).

Team have been found to make processes more efficient (Cohen and Ledford, 1994), by reducing delivery time (Hackman, 1991; Benders *et al.*, 1999; Doorewaard, Van Hootgem



and Huys, 2002), they also offer transparency of work process (Doorewaard, Van Hootgem and Huys, 2002), which leads to increased customer satisfaction and enhance innovation (Parker, 1990; Cohen and Bailey, 1997). All this makes well-functioning teams a very valuable commodity in the organisational landscape (Mathieu *et al.*, 2008), an irreplaceable building block of modern organisations (Guzzo and Shea, 1992; Kozlowski and Bell, 2008) and a primary ingredient that ensures future successful performance (Katzenbach and Smith, 2003).

The benefits are not limited to just organisational advantages, teamwork is as discussed, a valuable and motivating experience for the employees involved (EFILWC, 2007). There are many constructive outcomes documented that are linked to individuals and teams when acting in a combined fashion (Kirkman and Rosen, 1999; Johnson *et al.*, 2006; Mathieu and Schulze, 2006). For individuals *“working in a team empowers people and helps them develop autonomy, which is a source of profound job satisfaction and reduces stress”* (Hayes 2005, p. 172). It has been suggested members have positive feelings they didn't experience before, which are linked to being part of a team (Ramsay, Scholarios and Harley, 2000), this is potentially driven by the increased levels of responsibility and autonomy (West and Markiewicz, 2004). There is also evidence that teamworking enhances employee interest and motivation, not only in the context of the employee's job but also in the context of corporate strategy (Moldaschl and Weber, 2011). Other claims include employees arranged in teams are renowned for making more effective use of resources (Parker, 1990), enhancing one another's skills, illustrate increased organisational knowledge and offer improvements to other member's abilities through the process of collaboration (Frobel and Marchington, 2005). This is especially important as a synergistic outcome is essential for a team to gain and maintain its effectiveness (Kozlowski and Klein, 2000).

Other advantages include team members displaying desirable characteristics such as increased organisational commitment, job satisfaction (Batt and Appelbaum, 1995; Elmuti, 1997; Batt, 2004), trust, effective communication skills and appropriate time management (McFadzean, 2002). Additionally, empowered employees also illustrate they don't require direct supervision and often flourish without support from them (Orsburn and Moran, 2000), therefore eliminating the need for expensive levels of excessive management (Wood *et al.*, 2011), as they make the decisions on how, when and who completes the work (Parker, 1990;



Wellins *et al.*, 1990; Katzenbach and Smith, 1993; Cohen and Bailey, 1997). It has also been found that team members feel more effective in their work environment driven by the process of dividing and sharing workload and increased responsibilities (DeMeuse, Tang and Dai, 2009). They also succeed in effectively managing the combination of available resources and work towards the achievement of a common goal (Matthews and McLees, 2015). They are found to believe they have a shared responsibility for achieving this goal (Parker, 1990; Mickan and Rodger, 2000; Katzenbach and Smith, 2003; Boddy, 2008; Prosser, 2010). This creates an increase in knowledge, skill and abilities which further benefits both individuals and their organisation (Heathfield, 2000). There are also claims that employees are more disciplined, they do not wait for their work to be distributed but are often prepared to have full responsibility for all parts of their function including in some cases authority over production planning, scheduling and allocation of the necessary resources to execute the work required (Appelbaum *et al.*, 2000).

Team members has also been reported to have greater creativity (Parker, 1990), experience higher job satisfaction, improved morale (Knights and Willmott, 2007; Hayes, 2008), are more comfortable exercising responsibility (EFILWC, 2007), illustrates increased levels of well-being (Hackman, 1991; Cascio, 1995; Cohen, Ledford and Spreitzer, 1996; Sims and Manz, 1996; Hayes, 2008), and have lower levels of absenteeism and less fluctuations in performance (Hayes, 2008) when compared to others who do not work as part of a team (Rasmussen and Jeppesen, 2006). Workers have also been found to be less prone to stress and make a greater effort in their working environment (Katzenbach and Smith, 2003) and “*found to be more satisfied in their work*” (Pais, 2010, p. 364). It has also been suggested that there are useful psychological benefits associated with greater self-belief and intrinsic motivation for team members (Cohen and Bailey, 1997; Tata and Prasad, 2004; Kauffeld, 2006; Yukl, 2006), enhancing personnel output (Bektas and Sohrabifard, 2013). Furthermore, teamworking has been found to promote higher degrees of adaptability and operational management (Totterdill, Dhondt and Milesome, 2002). This multi-combination of skills, member expertise and resources of team members enable teams to potentially optimise the speed and efficiency in which complex tasks can be completed (McComb, Green and Compton, 1999), further adding to organisational efficiency and performance. There is also improved sharing of ideas and better solutions given when acting as a collective rather than relying on a sole source (Goodman and Haran, 2009).





The team environment has also been found by some to promote learning through interaction, dialogue, co-operation and close collaboration (Johnson and Johnson, 1999). This is executed via a combination of complementary employee skills and knowledge (Peeters *et al.*, 2006). Other benefits include improved information transfer, a reduction of worker isolation and strong levels of cohesion (Kozlowski and Ilgen, 2006; Salas, Cooke and Rosen, 2008; Lanz and Miroudot, 2011).

### **2.3.3 Disadvantages of Teamworking**

Some of the disadvantages associated with the teamworking include it can intensify employee workload and stress with some subjects experiencing psychological problems when put in control of themselves. This has been found to be especially prevalent during the initial stages of teamworking. Carter and West (1999) acknowledged that work related stress could become a negative factor in a team but found that workers experience less stress when they are part of a well-structured team compared to one that is inexperienced or poorly run.

Guest (1995) concluded that teamworking is certainly not the answer to all organisational problems and the method demands careful intervention at all levels for it to be successful, potentially defeating the point of making the transition in the first place. Further findings identified include problems that occur at the very beginning of the introduction to teamworking if the change is not correctly planned and carefully managed. Bernstein (1992, p. 359) points out after an extensive study at Volvo Automotive in Stockholm, Sweden “*to everyone’s surprise some workers resisted changes because they preferred the traditional approach of doing a single task all day*”. There was speculation that this could either be simply a case of the Volvo employees rebelling against the introduction of teams or they were indeed not comfortable with the newly adopted work practices and were perhaps displaying a form of grief for the former methods of management control they had become accustomed to working within (Ranieri, 2015). The study concluded with no clear recommendations why teams failed prematurely at the organisation as neither of the issues discovered or even a combination of the two was found to be significant contributory factors.

There have been organisations that have after initially introducing teams have rolled back their implementation and re-introduced a middle management tier as they have found they were not experiencing the advantages they believed they would by making the transition.



One example is Florida Power who reduced the level of worker empowerment after employees complained that they were attending far too many meetings which they felt was having a detrimental impact on their performance and the company's productivity. After dialogue between management and employees the organisation concurred efficiency was being compromised and decided to return to the former hierarchal method of working to ensure operational stability (Zemke, 1993).

Other issues found include how to re-train and re-deploy former managers if the choice is made to retain them instead of making them redundant, some have been found to experience problems integrating into the general workforce. They are unable to adapt to working in a team which can result in operational disruption (Weisbord, 1992). Further issues include employees abstaining from participating in their respective teams where some or all members are in a situation of conflict, this can occur when workers put their self-based interest in place of the collective team-based interest (Van Lange *et al.*, 2013), a complicated and damaging situation that is referred to as the "*theory of social dilemmas*" (Xia *et al.*, 2015).

The organisation's culture can also have a negative effect on team performance, the risks being unique to the setting and are therefore hard to predict (Haas, 2010) and harder to mitigate against occurring. Other issues include difficulties weeding out individuals that are weak or lazy performers as output is derived from a team effort with individual efforts being camouflaged by the team. Appraisal of such individuals can be problematic as they are often shielded by their harder working colleagues, this can also become a source of team conflict (Bass and Media, 2012). Other issues can stem from personality differences amongst members or inter and intra-team quarrels, demographic diversity, time keeping and individuals being unable or unwilling to manage or adhere to strict deadlines (EFILWC, 2007). Many of these negative points can result in workers feeling pressured and overwhelmed, annulling claims of higher levels employee well-being when individuals are arranged into teams.

Personal conflicts can be especially damaging and destructive as they can result into prolonged periods of hostility, arguments and possibly revulsion amongst team members, which can erode cohesion and consequently has a reductive effect on productivity (Bass and Media, 2012). There is also evidence that some employees believe that the change to teamworking has only occurred to further the careers of senior managers who are portrayed





as successful in bringing about its implementation (EFILWC, 2007). Another source of hostility is the remaining managers after a rationalisation program are often seen to benefit or gain disproportionately out of introducing teamworking in comparison with other employees that lose benefits (Bacon and Blyton, 2005). Other concerns include the introduction of teams is made only for effect, possible because the company is prioritising shareholders over the interests of its employees or that they provide a clandestine method for justifying a reduction in headcount (EFILWC, 2007).

Further disadvantages include the introduction of teamworking can be an expensive (ACAS, 2017)<sup>7</sup>. Miles and Snow (1994) agree arguing that for teams to operate effectively heavy investment is needed in team infrastructure; including extensive training at the very beginning of the transition which helps to improve the technical, business and leadership skills of everyone concerned. Simply put, companies must be aware and prepared to deal with incurring significant cost (Pfeffer, 1998) to offer teamworking the best possible chance of success (Bodner, 2005). Cappelli and Neumark (2001) found there can be higher labour costs incurred when using teams because of the additional downtime created. There has also been found to be significant issues of shirking and laziness present among some team members (Holmstrom, 1982; Rasmussen, 1987; Itoh, 1991; 1992; McAfee and McMillan, 1991; Legros and Matthews, 1993) further adding to organisational overheads. Druskat and Wheeler (2003) found that although teams are supposed to have minimal management input they still require a specific type of external leadership and the quality of this input can either make or break an effective team, again adding additional costs and organisational complexity. There is evidence that supports the assumption that if team members are not well managed they start behaving more socially than formally and productivity is again reduced (Bass and Media, 2012). Other issues reported include team members requiring increased and ongoing direction, education, training, poorly defined team structures, ongoing support from peripheral functions such as environmental health and safety, production planning and quality control as well as constant coaching within the organisation to reach ideal performance (Hackman, 2002); all of which have negative effects on labour utilisation and increase costs.

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<sup>7</sup> *Advisory Conciliatory and Arbitration Service (ACAS) is a UK Government institution that provides free and impartial information and services to employers and employees on all aspects of workplace relations and employment law (ACAS, 2017).*



Furthermore, due to their very nature the success of teams is dependent on the ability of members to co-ordinate their actions and work as an interdependent unit (Hollenbeck, DeRue and Guzzo, 2004), sometimes this is hard to achieve especially when there is dissent within teams or its members are not cohesive. In such cases the levels of interdependence are reduced and therefore productivity is also reduced. There is also some evidence that teamworking may have a detrimental effect on workers by increasing work related health problems and there is a greater risk of members succumbing to harm from occupational hazards (Askenazy, Eve and Vincent, 2001; Brenner, Fairris and Ruser, 2004; Bauer, 2007). Teams can fail, even after receiving the appropriate training as some employees may not be equipped or have the necessary experience or confidence for dealing with the consequences of self-managing, they can also be unwilling to participate in decision-making (Johnson, 1999). Rebellious employees can also be a problem, Lee (1999) warned that once teams are empowered and workplace democracy is unleashed such individuals can get out of hand, disruption can occur, and strategic direction can be threatened, which can destabilise the whole organisation. Appelbaum *et al.* (2000) found that in some companies that practice teamworking there is an increasing concern that productivity and efficiency may be hurt rather than helped; some organisations have experienced poor decision-making and increased levels of employee dissatisfaction, leading to reductions in productivity. Johnston (1999) found that changes in team structure, once established, can directly affect performance, the amount of effort expended and the team's synergy and cohesiveness, which can influence adherence to job performance (Campbell, 1988). Other studies have found the benefits of teamworking can be marginal or mixed at best once the team is settled and into a set routine (Huselid and Becker, 1996; Staw and Epstein, 2000), implying that once the initial enthusiasm diminishes then teams are only equally as effective as the systems they were brought into replace.

There has been a lot of research attention given in recent years to the growing trend toward a progressively ageing workforce and what effect this has on team efficiency (McEvoy and Cascio, 1989; Avolio *et al.*, 1990). Some organisations predict they could possibly have difficulties in managing teams with an increasing number of older members due to the stereotypical view that older workers are less flexible, less adaptable to the latest technology and less effective in the workplace (De Lange *et al.*, 2006). Although this is disputed by Warr (1994) who argues the contrary, believing that long term, more mature workers perform better in some jobs due to a wealth of relevant job experience that they have gained over the years.



However, there remains some debate over the actual effect of age diversity on team performance and it isn't clear, some studies report positive effects (Kilduff, Angelmar and Mehra, 2000); some no effects (Simons, Pelled and Smith, 1999; Bunderson and Sutcliffe, 2002) and others have identified negative effects associated with age diversity on both team processes and performance (West *et al.*, 1999; Timmerman, 2000; Ely and Thomas, 2001; Leonard, Levine and Joshi, 2004). Regardless of what is occurring in practice the fact remains that in the future workers ages will increase and older employees will join teams resulting in the average age continue to increase (Jackson, 1995).

Other issues include the extensive debate over whether employees prefer to co-operate naturally and support pro-social activities practiced within a team environment, or if they instinctively prefer to “*socially loaf*” and behave in a selfish manner (Nielsen, Tyran and Wengstrom, 2014). The phenomenon of “*social loafing*” or “*free-riding*” describes a trend which occurs when individuals exert less effort when working as a team than when working independently. It has been identified as one of the most significant problems associated with teamworking (Chidambaram and Tung, 2005; Davoudi *et al.*, 2012). The issue has been found to not only be present in low performing employees or weak teams but also affects high performers. It has been suggested that this is the result of individuals believing that their own efforts will not enhance team performance and they will receive the same rewards no matter how much effort they make (Sweeney, 1996). There is also evidence that when teams expand and then so does the ability for individuals to participate in “*social loafing*” become more probable (Hassan, 2010), possibly because they feel they are less accountable (Garcia *et al.*, 2002). Further issues can occur when team members consider some tasks to be low priority and subsequently decide they are not worthy of exerting greater effort as they receive no punishment or enhanced compensation (Latané, Williams and Harkin, 1979). Again, this is a consequence of the complexity of accessing individual contributions in team-based organisations (Jones, 1984).

Team members can also be subject to a phenomenon termed the “*sucker effect*”. This is when individuals who have previously maintained reliable performance simply slow down due to the feeling that their additional efforts are being taken advantage of or they are being abused by fellow team members (Johnson and Johnson, 1999). This affects team cohesion as members can feel intense dissatisfaction with their fellow colleagues who fail to contribute



equally (Hassan, 2010). In extreme cases, some members have been found to reduce their individual contribution to very low levels or even withdraw altogether (Piezon and Donaldson, 2005). Rutte (2003) and West (2004) found this phenomenon can have a substantial impact and leads to teams underperforming, which can translate into a substantial productivity loss for the host organisation (George, 1992; Karau and Williams, 1997). To mitigate against such events teams are encouraged to establish ground rules or write and agree a “*team constitution*” that provides assurances to all stakeholders that any attempts to avoid work will be dealt with by appropriate consequences (Cox and Brobrowski, 2000).

#### **2.3.4 Team Training**

In team-based organisations simply bringing together several individuals is not sufficient for teams to be effective (McEwan *et al.*, 2017). It is essential that team members have the necessary knowledge, skills and abilities (KSA’s) that allows them to effectively communicate and co-ordinate with their peers and supports them to perform the tasks that require the integration of one another’s competencies (Delise *et al.*, 2010). This is achieved by personnel undergoing training interventions which should be commonly used in team-based organisations because of the positive outcomes they have (McEwan *et al.*, 2017).

The critical element that defines team training is it focuses on developing, refining and reinforcing KSA’s that drive effective behaviours such as communication, co-ordination and collaboration (Weaver, Dy and Rosen, 2014), with the ultimate objective of enhancing job performance (Chiaburu and Marinova, 2005). This is executed by giving employees the necessary KSA’s they need to offer greater performance which in turn influences organisational success by providing a key ingredient in helping them achieve corporate goals (Harrison and Pelletier, 2000). Training has also been found to result in increased levels of commitment and performance (Wakeling, Beatson and Purcell, 2015). There are several initiatives available, they can range from short-term interventions of simple training performed “*on the job*”, to the opposite end of the scale where longer-term training is delivered which can take place over many years or possibly remain active for the duration that an employee is functional in the role, if the conditions demand it.

Team training is “*designed to equip team members with the competencies necessary for optimising teamwork*” (Salas *et al.*, 2008a, p. 1002). It is very versatile and highly effective “*across a wide variety of settings, tasks and team types*” (Salas *et al.*, 2008b, p. 926).



Considered essential as it provides team members with the opportunity to first acquire skills then put them into practice and receive also appropriate feedback which produces a very rich learning environment (Salas *et al.*, 2008b). It is a systematic process that is executed using a set of tools and methods that when combined form an “*instructional approach*” (Salas and Cannon-Bowers, 2000). This is a common strategy that encompasses a broad range of both learning and development techniques that are used to increase competencies (Weaver, Dy and Rosen, 2014).

Team training has been shown to have a positive effect on team performance across a variety of contexts (McEwan *et al.*, 2017), indeed many researchers have concluded that training is critical to maintaining elevated levels of effective team performance (e.g. Stout, Salas and Fowlkes, 1997; Hollenbeck, DeRue and Guzzo, 2004; Paull *et al.*, 2013; Paige *et al.*, 2014; Firth *et al.*, 2015). It is claimed that team training can account for approximately 20% of the variance in team performance levels (Salas, Nichols and Driskell, 2007; Salas *et al.*, 2008b). Furthermore, training has been found to prepare team members mentally and offers cognitive support for members to achieve elevated levels of effective teamwork (Littlepage *et al.*, 2016) making it an organisational necessity (Stout *et al.*, 1999; Paris, Salas and Cannon-Bowers, 2000). Therefore, when applied correctly team training can be a very powerful tool (Marks *et al.*, 2002; Mayer, Cluff and Lin, 2011).

Training interventions can also be used to successfully target the interpersonal dynamics of teams, again this has yielded significant effects in relation to team performance (Rousseau, Aubé, and Savoie, 2006; McEwan and Beauchamp, 2014; McEwan *et al.*, 2017). Other benefits of this type of training include better inter-team communication (ACAS, 2014), and the development of deeper trust and cohesion within teams and improvements in interpersonal processes associated with effective teamwork (Zaccaro, Rittman and Marks, 2001). This assumption is further supported in work by Marks, Mathieu and Zaccaro (2001, p. 368) who argue such advances can “*lay the foundation for the effectiveness of other processes*”, therefore, offering the ability to improve a whole host of constructive team related functions.

It has also been found that team training can help performance issues and assist in filling the gap between what is standard performance and what the organisation expects (Swart, Purcell and Kinnie, 2005), effectively aiding individuals to perform a task in a more



efficient manner (Elnaga and Imran, 2013). It is also being argued that organisations must look beyond only mandatory training and embrace more voluntary diverse training activities that will enable employees to maximise their potential and can provide a valuable resource that differentiates the organisation from its competitors (Marvin, Lee and Robson, 2010). As when employees gain the appropriate knowledge and skills (Towler and Dipboye, 2009) there is also evidence of a strong competitive advantage being present (Lazzara *et al.*, 2014). Further benefits from additional training include improvements in safety and positive changes in employee beliefs and attitudes as well as higher productivity (Champathes, 2006; Salas *et al.*, 2015).

Effective team training has also been linked to increased employee retention rates (Becker, 1993; Colarelli and Montei, 1996) and more effective time management possibly because it allows employees to better cope with work related challenges (Wei-Tai, 2006). It has also been found that allowing employees to keep their competencies and skills up-to-date reduces errors and mistakes (Roberts, 2006), further optimising returns (Elnaga and Imran, 2013). Training is also positively linked to higher levels of innovation and creativity (Morgeston, DeRue and Karam, 2010). Further benefits include team members having the ability to effectively manage the complex dynamics they encounter every day in their role including difficult issues such as conflict resolution and decision-making (ACAS, 2014).

Other positive outcomes associated with active team training programs include the perception that the host organisation is investing and committed to maintaining its operations long-term. This sends out strong constructive signals to employees which increases motivation and moral (Pfeffer, 1994). Team training is only effective however if it has well-designed content, proper time is allocated to its delivery and it has the full support of the host organisation (Salas *et al.*, 2005). On completion team members should illustrate an improved perception of teamworking, this is possible with even short training sessions which are still considered to be valuable since they initiate a process of reflection. Therefore, offering new KSA's that yield the long-term benefits already discussed (Meurling, 2013).

The literature is clear that if team-based organisations are going to thrive in the increasingly fast-paced modern business environment, they must be prepared for new challenges (Wei-Tai, 2006) by developing their teams (Evans and Lindsay, 1999) which is essential (Tannenbaum, Beard and Salas, 1992). To gain the highest amount of benefit an on-





going, long-term commitment is recommended. Furthermore, it is advised that such actions are completed prior to an organisation making the transition to teamworking so the positive outputs are embedded from the beginning (Marks *et al.*, 2002).

There are many methods available in which training can be delivered to teams (Salas *et al.*, 2008b), each has been found effective (Snell, 2006; Banks and Millward, 2007; Salas *et al.*, 2010; Tannenbaum and Cerasoli, 2013). They utilise a variety of sound approaches (Gregory *et al.*, 2013) and incorporate multiple practices (Littlepage *et al.*, 2016). Buljac-Samardzic, Dekker Van Doorn and Van Wijngaardenm (2010) identify four prominent approaches that advance the competency of team members. They are specifically “*simulation-based training*”, “*crew resource management*”, “*inter-professional training*” and “*team function training*”. There is evidence of a gap in the literature here as there is no specific method of training that is recommended for delivery to teams. Table 2.1 briefly summarises the four methods as well as a further method of interest known as “*cross training*” or simply “*on the job training*”. This is included because it has been found to be a key training intervention that is specifically used at Company ‘A’.

**Table 2.1:** A summary of the five types of team training discussed.

Type of Training	Summary of Intervention
<b>Simulation Based Training</b>	<ul style="list-style-type: none"> <li>This is where an attempt is made by the trainer to replicate real life scenarios of which the team must react and be assessed to criteria. This is achieved using an artificial or synthetic environment that is created to manage individuals or team’s experiences with reality (Bell, Kanar and Kozłowski, 2008).</li> </ul>
<b>Crew Resources Management (CRM) Training</b>	<ul style="list-style-type: none"> <li>This is a concept traditionally used in the aviation industry to improve teamwork. It has been adapted to other high-risk industries and services. CRM encompasses a wide range of knowledge, skills, and attitudes including communication, situational awareness, problem solving, decision-making and teamwork skills (Helmreich, 2000).</li> </ul>
<b>Inter-Profession Training</b>	<ul style="list-style-type: none"> <li>This incorporates different learning methods that aim to improve co-operation between different disciplines (Ferber, Gutknecht and Michel, 2004). At a team level, this occurs when team members from two different teams learn with, about and from one another to improve collaboration, they “share complementary competences in a sustained collaborative approach towards common goals” (Barr and Low, 2013, p. 8). The promotion of collaboration allows team members to perform effectively in dissimilar roles (Speakman <i>et al.</i>, 2016).</li> </ul>
<b>Team Function Training</b>	<ul style="list-style-type: none"> <li>This includes different forms of training that focus on specific aspects of team functioning such as goal setting and team building. Team members may be taught how to use various to skills specific to their teams which they can use to improve team effectiveness (McEwan <i>et al.</i>, 2017).</li> </ul>
<b>Cross-Training/On the Job Training</b>	<ul style="list-style-type: none"> <li>This is where employees are taught by their peers, it is where team members rotate their respective positions to develop an understanding of other relevant knowledge necessary to successfully perform the tasks and duties of other team members (Reh, 2016). The fact that team peers are giving coaching helps to broaden the “distribution of valuable skills and</li> </ul>



<i>knowledge resident among them” (Morgeson, DeRue and Karam, 2010, p. 16). The benefits include deliverance of skills that cannot be taught by a more formal arrangement, they learn the actual issues that are not considered part of the job and they overcome these issues with colleagues are used to combatting cross-training is also considered to be cost effective as both the trainer and the trainee are being productive.</i>
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*Source: Helmreich (2000); Ferber, Gutknecht and Michel (2004); Bell, Kanar and Kozlowski (2008); Buljac-Samrardzic, Dekker Can Doom and Van Wijngaardenm (2010); Morgeson, DeRue and Karam (2010); Barr and Low (2013); Reh (2016); Speakman et al. (2016) and McEwan et al. (2017).*

To ensure success of a team training program it is suggested that several incremental steps are followed. The first is to accomplish an in-depth assessment to identify the team's training needs. Secondly an appropriate package must be designed that underpins the deficiencies found in the initial appraisal. Third and finally a suitable method must be chosen, and a strategy put in place in which to execute delivery (ACAS, 2014). There is also compelling evidence that it is far easier to introduce interventions during the initial stages of teamworking when teams are more malleable and display greater potential for improvement, this offers organisations the best chance of success (Borill *et al.*, 2000). In older, more established teams' customs are far more entrenched and therefore harder to change (McEwan *et al.*, 2017). Early training also helps team members to become self-efficient quicker and makes it easier for them to manage their new-found autonomy, a crucial factor of teamworking which results in superior job performance quicker because members are better prepared (Svenja, 2007). Team members can also recognise weak practices sooner which can be replaced with more efficient and effective alternatives (ACAS, 2014). After assessment of this part of the literature training is essential for preparing team members for the challenges of teamworking and the positive outcomes are not questioned. There is however a lack of direction of what teams are classified as established teams, one must question when does this occur and how is it measured, the literature does not answer this therefore this is found to be a gap.

It is claimed that to encourage desirable capabilities in teams they should be subject to targeted training, supported by on-going program of coaching (Morgeson, DeRue and Karam, 2010). Coaching is effective (Salas and Rosen, 2013; Weaver *et al.*, 2013) when used in a broad array of contexts (Kirkman and Rosen, 1999; Amorose and Horn, 2000; Wageman, 2001; Reinboth, Duda and Ntoumanis, 2004; Cohen, Mannarino and Knudsen, 2005; Hayes and Kalmakis, 2007) but it must be provide by appropriately trained personnel (Hicks, 2010) that possess the necessary competency and skills (Peters and Carr, 2013; Hawkins, 2014). Coaches should be able to aid the team processes that increase performance and offer other





favourable outcomes (Wageman, 2001; DeRue, Barnes and Morgeston, 2010). This helps organisations to offer improved capabilities, knowledge and skills that results in a more talented workforce which assist them to perform better, which is paramount in a fierce global market (McKinsey, 2016) because the “*era of stable, consistent and predictable roles, functions, tasks and competencies within business has faded*” (WABC, 2016, p. 12)<sup>8</sup>. The literature although supporting the use of coaches is a little vague on the skill sets demanded by such a role especially when applied to a team environment. There is also little empirical evidence on what makes an effective team coach, therefore, caution should be applied. In a team-based organisation a coach would be considered an authority and central focal for team members who would rely on them for solutions to the challenges they face daily in their team duty. The lacking description of the essential job characteristics and ambiguity on the associated skill sets demanded by a team coach which is considered important transpires into another gap in the literature.

There are some other negatives points to be aware of, introduction of team training is far from straightforward and the evidence suggests it is effective but not guaranteed (Tannenbaum and Yukl, 1992; Sitzmann *et al.*, 2006). Trainees can participate without acquiring new knowledge and skills or changing their attitude (Thomas and Galla, 2013). Training cannot either be introduced to an organisation with little or no preparation, it is imperative that adequate infrastructure is present which enables it to flourish and leave a positive impact. Organisations must be aware that training programmes do not necessarily produce instant results, and bespoke team training programmes need to be robustly designed and possess both valid and applicable content prior to the actual delivery of training. Such programmes also need to be continuously developed especially in a teamworking context as teams themselves are subject to constant change and evolution (ACAS, 2014). It is also vitally important that no matter what sort of team training is chosen its delivery should be undertaken in a positive environment (EFILWC, 2007).

Other aspects to consider include work by Salas and Cannon-Bowers (2000); Salas *et al.* (2001) and Baker, Day and Salas (2006) who found that any attempt at successfully training teams is dependent on the curriculum and instructional strategies being delivered.

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<sup>8</sup> Worldwide Associations of Business Coaches (WABC) is a professional global association that exclusively represents the business coaching industry (WABC, 2017).



They also argue that other organisational variables need to be considered such as leadership support, resource availability, training environment and the team members readiness for change. There are difficult factors to measure and attempting to evaluate their effect on training is even more complex. The literature does not specifically address these concerns within a training context or offer any further advice, which transpires into a gap. Baker, Gustafson and Beaubien (2005) concur with this assumption arguing that both existing and emerging team training initiatives are not necessarily grounded in scientific understanding, suggesting that such programmes are void of any real direction or substance.

As previously discussed Company 'A' operates as a service provider in the aviation sector and is a High Reliability Organisation (HRO). Such establishments have the potential to induce catastrophic failure, yet they engage in nearly error-free performance (Christianson *et al.*, 2011). They can maintain very high levels of safety (Chassin and Loeb, 2013) even though their operations are undertaken in *“extremely challenging and uncertain environments, where complex procedures, technology and guidelines are used to manage complex systems and conditions”* (Enya, Pillay and Dempsey, 2018, p. 1). High reliability theory treats safety and reliability equally and assumes that if each component in the system operates reliably, accidents won't be allowed to materialise (Leveson *et al.*, 2009). This preoccupation with failure (Lekka, 2011) produces an environment that is relatively free from errors because there are *“systems in place that are exceptionally consistent in accomplishing their goals and avoiding potentially catastrophic errors”* (McKeon, Oswaks and Cunningham, 2006, p. 298).

Unfortunately, despite the best efforts to prevent errors and avoid mistakes such systems can never be *“error free... but errors don't end up totally disabling them”* (Weick and Sutcliffe 2007, p. 14). To remain as error free as possible they employ mitigation strategies, these include a reluctance to accept simplification, are sensitive to operations, have resilience to error and deference to experience (Weick and Sutcliffe, 2007). Therefore, it will come as no surprise that due to the elevated levels of risk management and fanatical efforts to reduce errors many HRO's deliver comprehensive team training packages (Reader and Cuthbertson, 2011). The packages promote safety and include elements that focus on the working environment, previous errors, safety management systems (SMS) and unsafe condition reporting which when recognised are rapidly corrected and stopped (Chassin and



Loeb, 2013). It is these learnt behaviours that help to create the state of mindfulness that is required for healthy reliability to occur (Hines, Luna and Lofthus, 2008).

In an aviation based HRO's the work is highly technical, and the environment is often complex, high-risk and stressful (Reader and Cuthbertson, 2011), again team training is particularly important in such organisations as decisions are often made that are based on incomplete or conflicting information. There is also a requirement for close co-ordination to be present among personnel who have different skills and often dissimilar ranks (Noe, 2011). Failure is not an option as it can lead to unexpected events occurring under critical conditions (Knox and Simpson, 2004) which can have far reaching consequences that can potentially involving multiple casualties (Gaba, 1989). It is therefore paramount that all HRO's have a high degree of accountability and when errors do occur they should have severe consequences. For this to be a reality, the roles and responsibilities must be clearly differentiated and defined (Hines, Luna and Lofthus, 2008), another team function that is improved by appropriate training.

In commercial aviation there has been heavy investment made by some organisations which has resulted in training strategies being developed that are applicable to non-technical skills. This is known as Crew Resource Management (CRM) (Murray and Foster, 2000; Flin, O'Connor and Crichton, 2008). In such training programmes there is acknowledgment of the importance of effective teamwork which led directly to the development of CRM programs which are specifically designed to improve co-ordination and decision-making in such environments (Helmreich, Merritt and Wilhelm, 1999; Federal Aviation Administration, 2004; Littlepage *et al.*, 2016). These interventions are now a common and effective approach in which to train teams in this industry (Salas *et al.*, 2003; O'Connor *et al.*, 2008; Littlepage *et al.*, 2016). They offer scheduled ongoing team training by using established informative models to evaluate effectiveness (Reader and Cuthbertson, 2011).

These programs have provided a demonstrable change in employee's attitudes (Chassin and Loeb, 2013) toward teamwork, team behaviours and human factors (O'Connor *et al.*, 2008) as well as promoting higher reliability (Chassin and Loeb, 2013). They were initially developed because human error has been revealed as the biggest cause of air disasters around the world (Dearden, 2015). Estimates are as high as 60% to 80% (Shappell and Wiegmann, 2004; Baker, Day and Salas, 2006) when compared to technical issues involving



aircraft or their engines, which was clearly unacceptable. CRM is regarded as highly effective and it is widely credited as being the main influence in the dramatic improvements made in overall safety which aviation has witnessed (Helmreich, Merritt and Wilhelm, 1999) adding significant weight to the argument that “*training has been shown to have life-saving consequences*” (Salas *et al.*, 2012, p. 79).

The content of CRM programmes has been subject to modification over time, approximately fifteen years ago, the approach was changed to take into consideration the advances in safety of the mechanical properties of aircraft and engines, as well as the growth of teamworking. Its content now not only addresses technical proficiency as it did previously, but it also tackles issues identified within teams. It does this by using a specific strategy that is focused on developing a subset of competencies that include hazard identification, assertive communication and collective management of available resources (Salas *et al.*, 2001; Gaba, 2010; Maynard, Marshall and Dean, 2012).

The CRM methodology holds an underlying assumption that human errors are inevitable, therefore organisations must recognise and accept this fact and use a form of training that mitigates as much as possible the chances of such events occurring. Flin, O’Conner and Crichton (2008) found the core concept of CRM training is not to strengthen specific aspects within a team but making individuals more effective at working within a team environment. The skills learned include the ability to work effectively in an acute situation with unfamiliar individuals or even strangers or with people who display low levels of cohesiveness or who do not co-operate very well with one another toward a common goal and a positive outcome. Moray *et al.* (2002) and Nielson *et al.* (2007) found that training based on CRM principles likely results in improved team behaviour, enhanced attitudes towards teamwork, better assessments of institutional support as well as a reduced number of errors and a reduction in the amount of time taken for a decision to impact performance. Such is its success, there has been a series of efforts to apply the principles of CRM to other industries (Gordon, Mendenhall and O’Connor, 2013).

A further addition to CRM is Maintenance Resource Management (MRM) (Sian, Robertson and Watson, 1998; FAA, 2005) which is a team training method that is specific to aviation MRO’s, this is tailored to the organisation in which it will be delivered. MRM offers a range of training specifics that are outline in Table 2.2.



**Table 2.2:** Crew Resource Management (CRM) and Maintenance Resource Management (MRM) aim to provide several team enhancing training attributes.

<b>Training Objective of Crew /Maintenance Resource Management</b>
• End authoritative attitudes of supervisory staff or dominant team members.
• Improve assertiveness of all team members.
• Teach team members how to pool their knowledge and provide human factors awareness.
• Teach team members how to acquire a collective situational awareness that permits challenges from all team members.
• Emphasizes the importance of working in a team.
• Establishes a common terminology inter and intra-team to minimize communications problems.
• Training is provided to teams to enhance co-operation, communications and leadership skills.
• He/she takes pride in their personal achievements as well as the organisations.
• Aid the understanding of organisational culture and the recognition of shared values in line with teamworking expectations.
• Teach team members how to recognise, understand and manage stress.

Source: Sian, Robertson and Watson (1998); FAA (2005).

There are some drawbacks and despite the positive effects on safety, CRM and MRM should not be considered sweeping, comprehensive fixes. There are some indications that there is an obsession in the literature with both (Baker, Beaubien and Holtzman, 2003), this could disguise the fact that there are potentially better solutions available. There also needs to be more critical testing and refinement of CRM and MRM programmes (Baker and McCafferty, 2005) this is especially prevalent when applying the applications in new environments. The organisation also needs to possess the skills to allow evaluation and modification which can be demanding on resources. This is important because careful assessment will ensure their suitability as when in standard form they may not always be the most effective solution (Baker, Beaubien and Holtzman, 2003). Indeed, some studies have found that CRM and MRM are not suitable at all, Nielson *et al.* (2007) for example found that they did not result in a reduction of adverse outcomes, although after assessment of the literature this is a claim that is defiantly in the minority. As in any training the correct balance should be found between the intervention and the problem that is present. It is only then that the most dramatic improvements on teams will be found (Buljac-Samardzic, Dekker Van Doorn and Van Wijngaardenm, 2010).



### **2.3.5 Team Roles and Responsibilities**

The subject of team roles and responsibilities has been prominent within the teamworking literature since the very inception of the method, hence the area is well developed in terms of acquired knowledge. There is a distinct difference between the conceptual definitions and the operational definitions of team roles and responsibilities (Fujimoto, 2016). In a conceptually context they are defined as clusters of relationship or goal oriented behaviours (Belbin, 1981; 1993; 2010; 2017; Forsyth, 1990; Stewart, Fulmer and Barrick, 2005). When applying the term to an operational context there are many diverse types of teams that have distinctive requirements regarding roles, responsibility, their size and structure (Keyton and Beck, 2008), they really are dependent on the environment in which they are being practiced and the nature of the work being accomplished.

When applied in an operational context at Company 'A' the definition of an “*operational team*” is one that has two or more members with each sharing responsibility for maintaining definitive production targets. The “*operational team*” is accountable for performing a specific function within a pre-determined period known in the facility as turn-around-time (TAT). They are also responsible for ensuring the “*Starpoint*” roles are undertaken in a compliant and effective manner. Each member must also be willing to taking their turn in an enthusiastic, fair and just manner.

It is imperative team members are fully aware of what their actual roles and responsibilities are within their respective teams (Fapohunda, 2013) to assist this they should be clearly defined without any ambiguity (Day, 1998). It has been found empirically that teams will perform best when well-defined, relevant, fundamental roles have been properly and thoroughly considered (Humphrey, Menor and Morgeson, 2009). This helps to reduce conflict, bond teams, aids predictability, honesty and heightens collaboration and trust amongst team members (Adams and Anantatmula, 2010).

Clear roles have also been found to promote cohesion and responsibility (Mudrack and Farrell, 1995), and nurture positive interdependence and individual accountability (Brush, 1997). Team interdependence is vitally important as when it is high team performance has been found to also increase (Gully *et al.*, 2002; Allan and Hecht, 2004). Accountability is another crucial factor because it keeps team members engaged and aware of the needs of the host organisation. Engaged team members have been claimed as a definitive measure of



effective teams because once engaged they are also prepared to share responsibility for collective outcomes (Powell, Piccoli and Ives, 2004). This eliminates challenges that teams can face in the absence of formal role structures (Crowston, Wiggins, and Howison, 2010). Defined contributions for team roles has also been found to help stimulate members awareness of the overall performance of their team and also consider one another's personal contribution (Strijbos *et al.*, 2004) possibly helping to reduce laziness and featherbedding. They have also been found to mitigate the potential for conflict because there is a reduction of friction between members as they share a sense of common purpose (Beckham *et al.*, 2015). Bradley and Frederic (1997) found that clear roles aid motivation, and once motivated teams become more confident which improves efficiency (Capko, 1996). All these factors reinforce the rationale that team roles and responsibilities are a fundamental element of teamworking (Hackman, 1991) and when they are not clear teams can often struggle to improve (Katzenbach and Smith, 2003).

It has also been found that team roles and responsibilities must also be goal directed with labour divided fairly among team members, this fosters trust, furthers confidence and promotes members commitment to one another and the team itself (Harris and Harris, 1996). This aids them to remain engaged and satisfied with their role and positively accept the responsibilities associated with being in a team (Wageman, 1997). This encourages the right climate for the team to become innovative which is found to provide yet more benefits (Dacker, Lööv and Martensson, 2004) and improves employee satisfaction which is key to increased productivity (Moldaschl and Weber, 2011).

During the formation phase teams can experience difficulties because of problems surrounding, allocating and matching technical and problem-solving abilities to appropriate roles and responsibilities that will ensure problem-free completion of required tasks (Hackman, 1987; Katzenbach and Smith, 2003). There have been many studies undertaken to find the most effective way of matching member's skills with responsibilities because of the significant impact that mismatching can have on team efficiency (Ancona and Caldwell, 1992). Work by Belbin (1981; 1993; 2010; 2017); Woodcock (1989); Margerison and McCann (1990); Davis *et al.* (1992); Parker (1990) and Spencer and Pruss (1992) all focus on team roles and responsibilities and how they affect team performance, the results suggest that team performance is a function of the number and types of team roles members are expected





to take part in (Chong, 2007), suggesting member experience, team maturity and the complexity of the roles are all significant factors.

It is considered important that roles and responsibilities are given to teams on an incremental basis. The more stable, established and higher performing teams are the ones that should be given increased control over different tasks, prior to them achieving full independence (Carroll, 1996). By employing an incremental approach, it is believed that employees manage the team tasks more effectively and members learn gradually from the increased responsibility prior to assuming full responsibility for completing the required work (Wellins, Byham and Wilson, 1991). The gradual approach has also been found to increase team motivation and members generally perform better when given autonomy in this manner (West and Markiewicz, 2004). There is however some difference of opinion, Hitchcock and Willard (1995) argue that the transition of team roles and the complimentary responsibility should be viewed as a process rather than a destination. They argue teams cannot start off totally self-managing roles and responsibilities, but rarely do they achieve full control either, adding there is always more to learn, implying teams can never be truly totally independent.

Other research has found that employees that are required to work in more complex roles with larger responsibilities offer higher levels of productivity when compared to those who are required to complete a simpler task (Locke and Latham, 1990). Therefore, when setting the goals for the given roles and responsibilities they need to be planned carefully as they can influence team performance in several ways, including direct and indirect effects that are hard to measure because they can be moderated by various team tactics (Chesney and Locke, 1991; Durham, Knight and Locke, 1997). Generally, it is found that highly effective teams operating in complex environments often deliver output that exceeds targets and expectations (Lencioni, 2002), importantly such teams are characterised as having clear roles and responsibilities, well-defined goals and competently trained team members (Hertel, 2011). These components seem to allow teams to be aware of the expectation on them which is critical for them to remain engaged and an essential part of any teamworking environment (Harter *et al.*, 2009). They can also help eliminate challenges that teams often face during the absence of formal role structures (Crowston, Wiggins and Howison, 2010).

Bradley and Frederic (1997) found teams were most effective in their roles when they are a product of appropriate composition and argued roles should be interchangeable and each



member should learn every applicable role and make sure they are competent. It is also noteworthy that roles that are too rigid can be counterproductive (Cox, 2006); they need to be flexible enough to accommodate individual differences (Blechert, Christiansen and Kari, 1997). Sundstrom, DeMuese and Futrell (1990) warned there needs to be a motivating factor that encourages team members to share responsibility or the efforts are simply made in vain. They should also have the aptitude to anticipate each other's needs through the knowledge they have gained from participating in their responsibilities, (McIntyre and Salas, 1995), a product of cohesion. Maples (1988) suggested that interpersonal factors affect performance and it may be necessary to remove team members who are unable to collaborate and fully participate with other members of their respective roles (Beckham *et al.*, 2015). Guzzo and Salas (1995) support this having found that team effectiveness and efficiency in roles is related to members acting as a collective, there is no room for one in a team as it is the team not the individual that holds the key to business success (DeMeuse, Tang and Dai, 2009).

Roles and responsibilities are without doubt closely tied to the formation of teams. Forming of an effective team begins when perspective members are chosen, this is a very important step to consider as it has large implications for the effectiveness of a team and ensuring it is successful in its performance (Paris, Salas and Cannon-Bowers, 2000; Hollenbeck, DeRue and Guzzo, 2004; Omar *et al.*, 2015). Salas *et al.* (2008) argue that variation is also a key factor in the team's composition which must be considered during the establishment phase or modification of an existing team as it also has far reaching implications for the team's effective operation. Choosing the right mix of members can be a challenge, Eells and Rockland-Miller (2010, p. 15) for instance came to the following resolute conclusion that "*critical to successful team operation... is the selection of team members.*" On balance the literature fails to identify any minimal criteria or recommend any method how teams can be effectively populated with the most appropriately skilled members that will aid teams to be successful as possible, this is therefore a gap in our knowledge.

Due to this criticality there has been an extensive amount of research conducted on team formation and it is generally concurred teams go through predictable stages on the path to becoming high performance (Blachard, 2016). Several theoretical positions have been presented that aim to forecast the transformation of a team from its inception to it becoming mature (e.g. Tuckman, 1965; Tuckman and Jenson, 1977; Lacoursiere, 1980; Peck, 1990;



Beck and Cowan, 1996; McFadzean, 2002). None of these have been proven to be any more precise than the another. However, Tuckman's (1965) model is the best-known example. This is possibly due to the appealing and memorable phases associated with the stages of team development. The number of formation models proposed indicates that again there is a gap in the literature as each model is very different and none have ever been universally accepted.

Further debate is found with the ideal number of team members considered optimal to ensure that all roles and responsibilities can support satisfactory team performance, they range from four (Parker, 1990) to fifteen (Davis *et al.*, 1992). Belbin (1981; 1991; 2010; 2017) doesn't argue specific numbers for a team to run effectively, however he does recommend a team design that concentrated on the importance of achieving a balance in terms of members' abilities and personal characteristics. This work is ground-breaking and has been the focus of significant attention in both industry (Senior, 1997) and academia (Broucek and Randell, 1996; Dulewicz, 1995; Fisher, Hunter and Macrosson, 1998). It has become one of the most renowned and widely used team role and responsibility frameworks (Batenburg, 2013) often referred to this as the "*team role balance*" hypothesis (Aritzeta, Swailes and Senior, 2007).

In his proposal Belbin (1981; 1991; 2010; 2017) argues that people contribute to teams in two ways; they perform both functional and team roles. Functional roles relate to technical or specialist expertise, whereas team roles relate to the type of contribution that they make to the internal workings of teams (Manning, Parker and Pogson, 2006). Further work by Belbin (1981; 1992; 2010; 2017) suggest a team role framework that is probably one of the most renowned and currently widely used in a vast variety of team development in practice (Van de Water, Ahaus and Rozier, 2008). In all Belbin identified nine team roles, arguing that correct and balanced team composition is a key factor in influencing team performance (Van de Water, Ahaus and Rozier, 2008). Each of the nine roles carries a balanced representation to ensure effective team functioning (Belbin, 1993; 2010; 2017) out of the nine it is highly likely that every person in the team has two or three team roles that naturally fit, with each of the distinct roles all complementing one another (Van Dierendonck and Groen, 2008).

Further work by Belbin (1993; 2010; 2017) argues that the most effective teams would ideally have the characteristics of all the nine roles identified practiced by every team member. Belbin also argues that balanced teams perform better than non-balanced ones (Van de Water, Ahaus and Rozier, 2008). Blanchard (1997) supports this assumption and believes that








everyone should share equally in all team roles and responsibilities. This helps the team to achieve balance no matter what individual specialities are, this is especially true when the team is put under pressure (Porter *et al.*, 2003). There are other claimed benefits of having a balanced structure in a team underpinned by definitive roles and responsibilities, Eisenhardt *et al.* (1997) found that team decision-making is more effective in such circumstances. Further support is offered by Whetten and Cameron (2016, p. 515) who claim, “*the key is to have a balance between task-oriented roles and relationship-building roles displayed in the team [to help avoid] the downfall of many teams ... [who become] one dimensional*”, other academics only offer limited evidence to support Belbin’s proposition (Senior, 1997; Prichard and Stanton, 1999).

Partington and Harris (1999) claim that the “*team balance indices*” model cannot be used as a standalone predictor of performance and disagree with the allocation of nice specific roles. Pries-Heje and Commisso (2010) caution that establishing a team calls for sincere consideration about complex factors around roles that likely have a considerable influence on final performance but dismiss that nine are needed and argue each team is unique in the number and type of roles it requires. Van Dierendonck and Groen (2008) also questioned its validity and tested the research with mixed results. Furnham, Steele and Pendleton (1993) and Broucek and Randell (1996) observed that there was little psychometric support for Belbin’s teamworking model, whilst other academics including Dulewicz (1995); Lindgren and Meredith (1997) and Jackson (2002) have produced studies that offer only ambiguous support for the construct validity for Belbin’s underlying model (Anderson and Sleaf, 2004). Van de Water, Ahaus and Rozier (2008) concluded that the results of studies into Belbin’s theory are unclear and other than Belbin’s own research there are no well-defined links between the number of team members and team performance. Partington and Harries (1999) also shared this apathy and dismiss the proposal; other research also illustrates only weak support for the assumptions at best (Senior, 1997; Park and Bang, 2002). Van de Water, Ahaus and Rozier (2008) concluding that prior to discussions on whether balanced teams perform better, a unique definition of how to create a balanced team is required first. The ambiguity present with this part of the literature. There are many supporters of the “*balanced*” team theoretical position which claims to offer optimum levels of team efficiency. There are also many opponents of this theory and this disagreement transpires into a gap in the literature, more empirical testing of the theory would be beneficial. Adding to the complication the field fails







to agree on what an actual “*balanced*” team is because there is no universally agreed definition of the term, which is another significant gap in the literature.

Despite the common criticism for Belbin’s work (1993; 2010; 2017) his proposals on team role and responsibilities remains extremely prominent and its popularity is unhindered by the common denunciation (Batenburg, 2013). Indeed, it is in a position of strength and considered to be a standard used in many team-based organisations and management consultancies widely in the UK and further afield (Prichard and Stanton, 1999; Chong, 2007). The continued support for the model in literature and practice is testimony to the influence it holds (Chong, 2007), a summary of the nine team roles proposed by Belbin (1981; 1993; 2010, 2017) is illustrated in Figure 2.2.

<i>Role Identified</i>	<i>Characteristics</i>	<i>Strengths</i>	<i>Weaknesses</i>	<i>Points to Note</i>
<b>Completer/Finisher (CF)</b> 	<ul style="list-style-type: none"> <li>Shows great concern towards people and the business; focuses on details and is quality-oriented; ensures that standards are achieved; maintains sense of urgency and is punctual; searches very precisely for mistakes.</li> </ul>	<ul style="list-style-type: none"> <li>Painstaking, conscientious, anxious. Searches out errors. Polishes and perfects.</li> </ul>	<ul style="list-style-type: none"> <li>Can be inclined to worry unduly, and reluctant to delegate.</li> </ul>	<ul style="list-style-type: none"> <li>They could be accused of taking their perfectionism to extremes.</li> </ul>
<b>Shaper (SH)</b> 	<ul style="list-style-type: none"> <li>Is passionate to achieve results; challenges and argues; has the drive and courage to overcome obstacles; thrives on pressure; is impatient, has a low frustration threshold and is sensitive to being belittled; is keen on winning the game; is an enterprising careerist; sees to it that things get done.</li> </ul>	<ul style="list-style-type: none"> <li>Challenging, dynamic, thrives on pressure. Has the drive and courage to overcome obstacles.</li> </ul>	<ul style="list-style-type: none"> <li>Can be prone to provocation and may sometimes offend people's feelings.</li> </ul>	<ul style="list-style-type: none"> <li>They could risk becoming aggressive and bad mannered in their attempts to get things done.</li> </ul>
<b>Plant (PL)</b> 	<ul style="list-style-type: none"> <li>Is always in search of something new and different; puts forward an endless stream of original, out-of-the-box ideas; is unorthodox; shows creativity, imagination and innovation; is a perpetual source of inspiration.</li> </ul>	<ul style="list-style-type: none"> <li>Creative, imaginative, free-thinking, generates ideas and solves difficult problems.</li> </ul>	<ul style="list-style-type: none"> <li>Might ignore incidentals and may be too preoccupied to communicate effectively.</li> </ul>	<ul style="list-style-type: none"> <li>They could be absent minded or forgetful.</li> </ul>
<b>Implementer (IM)</b> 	<ul style="list-style-type: none"> <li>Converts plans into practical workable activities; likes order, structure and routine; might sometimes lack flexibility; entails a down-to-earth outlook coupled with perseverance; works disciplined and efficient; is a born organiser.</li> </ul>	<ul style="list-style-type: none"> <li>Practical, reliable, efficient. Turns ideas into actions and organises work that needs to be done.</li> </ul>	<ul style="list-style-type: none"> <li>Can be a bit inflexible and slow to respond to new possibilities.</li> </ul>	<ul style="list-style-type: none"> <li>They might be slow to relinquish their plans in favour of positive changes.</li> </ul>
<b>Team Worker (TW)</b> 	<ul style="list-style-type: none"> <li>Stimulates, relieves and embellishes the work climate; strives for harmony and unity; averts frictions; is loyal to the team and supportive to colleagues; is sensitive and of a socially observant nature; holds the team together.</li> </ul>	<ul style="list-style-type: none"> <li>Cooperative, perceptive and diplomatic. Listens and averts friction.</li> </ul>	<ul style="list-style-type: none"> <li>Can be indecisive in crunch situations and tends to avoid confrontation.</li> </ul>	<ul style="list-style-type: none"> <li>They might be hesitant to make unpopular decisions.</li> </ul>



<b>Coordinator (CO)</b> 	<ul style="list-style-type: none"> <li>• Elucidates objectives and puts forward priorities; keeps to the protocol; encourages to get involved, unlocks personal qualities by posing questions; recapitulates the decision; coordinates and controls the activities; is a trusted chairperson with an innate ability to lead discussions.</li> </ul>	<ul style="list-style-type: none"> <li>• Mature, confident, identifies talent. Clarifies goals.</li> </ul>	<ul style="list-style-type: none"> <li>• Can be seen as manipulative and might offload their own share of the work.</li> </ul>	<ul style="list-style-type: none"> <li>• They might over-delegate, leaving themselves little work to do.</li> </ul>
<b>Monitor/Evaluator (ME)</b> 	<ul style="list-style-type: none"> <li>• Something new and different; puts forward an endless stream of original, out-of-the-box ideas; is unorthodox; shows creativity, imagination. Wants to grasp matters and thoroughly understand them; analyses ideas and proposals; processes and orders a lot of relevant information; evaluates feasibility; points out in a constructive manner weaknesses of the proposals being considered; inclines to put a damper on enthusiasm; decides after much deliberation.</li> </ul>	<ul style="list-style-type: none"> <li>• Sober, strategic and discerning. Sees all options and judges accurately.</li> </ul>	<ul style="list-style-type: none"> <li>• Sometimes lacks the drive and ability to inspire others and can be overly critical.</li> </ul>	<ul style="list-style-type: none"> <li>• They could be slow to come to decisions.</li> </ul>
<b>Resource Investigator (RI)</b> 	<ul style="list-style-type: none"> <li>• Has an inquisitive mind; is always on the lookout for new possibilities; explores the environment by identifying ideas, information and resources; enjoys developing numerous contacts; is candid, enthusiastic, extravert, energetic; is more of a discoverer than an inventor.</li> </ul>	<ul style="list-style-type: none"> <li>• Outgoing, enthusiastic. Explores opportunities and develops contacts.</li> </ul>	<ul style="list-style-type: none"> <li>• Might be over-optimistic and can lose interest once the initial enthusiasm has passed.</li> </ul>	<ul style="list-style-type: none"> <li>• They might forget to follow up on a lead.</li> </ul>
<b>Specialist (SP)</b> 	<ul style="list-style-type: none"> <li>• Is known for single mindedness, acting solo and being dedicated to the specialism. The role expresses itself by acting introvert, being silent and retiring especially outside of the specialist areas. It is seen as having a negligible team contribution.</li> </ul>	<ul style="list-style-type: none"> <li>• Single-minded, self-starting and dedicated. They provide specialist knowledge and skills.</li> </ul>	<ul style="list-style-type: none"> <li>• Tends to contribute on a narrow front and can dwell on the technicalities.</li> </ul>	<ul style="list-style-type: none"> <li>• They overload you with information.</li> </ul>

**Figure 2.2:** Belbin's nice team roles and responsibilities remain the leading standard in team roles and responsibilities.

Source: Belbin (2016).





Regarding the measurement of the actual performance of members undertaking team roles and responsibilities there have been several models proposed, Partington and Harris (1999) for example developed a method termed the “*team balance index*” to calculate the aggregate score of team performance spread across all member roles. Other methods of measuring the effectiveness of team roles and responsibilities include a mathematical model developed by Ross (2006). Chong (2007) considered the relationship between the number of team members and type of roles that were present in a team to measure its overall performance. This study did not find any meaningful relationship between the more “*balanced*” teams measured by the number of roles and the rated levels of performance. Senior (1997) on the other hand did find that specific team roles did likely make a difference to the overall performance of the respective team. The debate is far from over and continues to be the subject of in-depth discussion in the team literature.

#### **2.3.6 Incentives and Teamworking**

Regarding the topic of incentivisation on an individual level there is an abundance of advice available on the effect of incentives on performance (Moreland and Levine, 2002; Wheelan, 2005) but there is a lack of literature when looking at incentives from a team perspective. The situation is however improving and the depth and frequency of study is expanding (Babcock *et al.*, 2012) and there is some momentum to find out more on the effects that incentives have on teams to make them elicit increased effort, alter set behaviour and/or encourage other improvements in performance, the measurement processes have also improved (Ittner and Larcker, 2002; Gibbs *et al.*, 2009; Kauhanen and Napari, 2012).

It is claimed that a basic “*law of behaviour is that higher incentives will lead to more effort and higher performance*” (Gneezy, Meier and Rey-Biel, 2011, p. 191). This is the primary reason why many organisations use team incentives schemes which are widely practiced (Kim and Vikander, 2010). Indeed, as the use of teams has increased so have the number of organisations that have adopted incentive schemes as a reward for positive team performance (Hamilton, Nickerson and Owan, 2003). The objective is to increase the amount of effort employees exert when performing work tasks which leads to higher performance and greater productivity outcomes. When incentivisation is applied to a task it is expected to encourage a two-stage process whereby they provide value by increasing motivation which



in turn harnesses task-relevant knowledge and skills to drive an increase in performance (Clark and Estes, 2002).

The results of introducing incentive schemes are encouraging in some cases. Clark and Estes (2002) found that significant levels of higher performance are realised when implementing motivational strategies that are subjected to incentivisation. Corts (2007) found that team-wide incentives work very well when the aim is to solve multi-task problems. While Stolovitch, Clark and Condly (2002) found that incentive programs can increase work performance more than 20% when there is a financial gain and even larger amount when the award is non-financial, finding improvements up to 40% in some cases, although a gap that is evident in this study is the method of measurement was not revealed.

The relatively narrow field of literature available does offer support for the traditional mindset that there is indeed a relationship between task interdependence and incentive rewards which result in higher team performance (Wageman, 1995; De Matteo, Eby and Sandstrom, 1998). There have been some studies undertaken that have found team rewards are particularly positive and offer important implications for the development of more effective teamworking (when compared to prior output) and lead to improved performance (Tata and Prasad, 2004). It has also been found that the initiation of interdependent reward schemes often results in increased cooperative behaviours within teams as it encourages the development of norms and provides a mechanism for the fairer distribution of work amongst team members (Aime, Meyer and Humphrey, 2010). In doing so it also balances the allocation of effort to different tasks (Kato, Kauhanen and Kyjansuu, 2013).

The aim of incentives in an organisational setting is to extract two distinct types of behaviour from employees; these are known as “*task behaviour*” and “*organisational citizenship behaviour*.” “*Task behaviour*” are the requirements outlined in an employee’s job description (Macy and Schneider, 2008), this is the general behaviour that is desired from employees in the workplace. “*Organisational citizenship behaviour*” (Bateman and Organ, 1983; Smith, Organ and Near, 1983; Organ, 1988; 1997) are the behaviours that are “*above and beyond*” the normal description of an employee’s job role (Macy and Schneider, 2008), the extra efforts and enthusiasm so important to making organisations successful. Organ (1988, p. 4) defined such behaviour as “*individual... discretionary, not directly or explicitly recognised by the formal reward system, and that in the aggregate promotes the effective*



*functioning of the organisation*”. The definition was later refined to include “*any form of performance that supports the social or psychological environment in which the work tasks are embedded*” (Organ, 1997, p. 7). For an organisation to experience the benefits of the performance enhancing “*organisational citizenship behaviour*” it is argued five key criteria must be met. These include job satisfaction, organisational commitment, perceptions of fairness, perceptions of leadership supportiveness and employee morale (Dimitriadis, 2007). Such components are extremely hard to measure in any organisation and the lack of direction is a gap. The literature is also at odds to what qualifies as “*citizenship behaviour*” as opposed to what is expected by the company’s management and not classified as part of the job description, this disparity and lack of agreement is another clear gap.

When assessing what incentives to employ, it has been found that it is not always true that “*cash is king*”, although its influence for motivating and retaining staff is strong but not absolute (The Aberdeen Group, 2011), Deci (1971) for instance found monetary incentives can lead to eroded worker motivation. Others have found that non-monetary based incentive schemes are more effective for influencing team behaviour and occasionally monetary incentives can even backfire (Kamenica, 2012). The cost of maintaining and updating incentive plans can also end up a costly exercise as it takes up valuable management time, this must be factored into the overall cost. Therefore, an analysis is needed prior to implementation of any incentive schemes to calculate the expected benefits as opposed to the actual cost. Obviously, the benefits of setting up a scheme must be found to be worthwhile (Kato, Kauhanen and Kyjansuu, 2013), or a scheme can be basically a waste of time, money and resources that are better concentrated elsewhere.

There have been issues found with incentive schemes that occur after implementation. Dumont *et al.* (2008) found that lowering the amount of incentives offered once established can lead to substantially less effort being exerted on the measured tasks but higher effort on the tasks that received no reward under the original incentive plan, a confusing result that results somewhat of an incentive juxtaposition. There is other evidence that incentives affect individual behaviour and work prioritisation (Baker, Jenson and Murphy, 1988), they have also been found to possibly cause a reduction in team co-operation.



Early work on incentives by Deci (1971, 1972) and Lepper, Greene and Nesbit (1973) found that giving tangible incentives destroys personal interests in work and organisation objectives. They found that once payment is linked to performance then the personal interest in completing the work is reduced and a culture of “*money grabbers*” is created, there was also evidence that in such a culture, individuals do indeed focus on tasks where they would receive an increased incentive, at the cost of un-incentivised tasks without considering the organisational goals whatsoever.

There are many proponents who argue that it is very important when adopting incentive schemes to make sure everyone in a team is rewarded and not individuals alone. When they have only been given to the latter such schemes can foster competition within teams and stifle co-operation among members (Shipp *et al.*, 2012). Some research has shown that incentives can have high hidden costs by providing detrimental effects (Masella, Meier and Zahn, 2014). Furthermore, some team members can choose to engage in collusive shirking and sometimes request to work with more able colleagues to maximise their output, distorting the allocation of incentives (Gibbs *et al.*, 2009). Incentives can also encourage unethical behaviour where the amount of monetary incentive and the type incentive scheme adopted are relevant factors (Schweitzer, Ordóñez and Douma, 2004; Denis, Hanouna and Sarin, 2006; Ordóñez *et al.*, 2009; Cadsby, Fei and Tapon, 2010; Conrads *et al.*, 2013). They have been generally found to affect people in two separate ways. Firstly, people will become more output oriented and modify their performance based on a rational cost-benefits analysis (Gneezy and Rustichini, 2000; Lazear, 2000). Secondly, they can act more selfishly and are less sensitive to the needs of others (Vohs, Mead and Goode, 2006). The former can have implications for quality and the latter is obviously undesirable behaviour that can affect employee well-being.

Incentives have been found to support a culture of sabotage (Lazear, 1989; Drago and Garvey, 1998; Carpenter, Matthews and Schirm, 2010) in extreme cases. This translates into employees being prepared to take risks and shortcuts to maximise gains that they otherwise would not have considered (Rayo and Becker, 2007). They have also been found to be prepared to take shortcuts from normal operations and concentrate their effort strategically to affect future goals and gain the maximum amount of incentives available to them (Delfgaauw *et al.*, 2010; Frank and Obloj, 2013) although this is a longer-term strategy of incentive maximisation. It should be regularly affirmed that incentives are not primarily about pursuing



one's own interests, instead they should focus on the organisations goals and objectives (Sorauren, 2000).

Klor *et al.* (2014) proposed incentive schemes should consider each team members individual contribution and measure it directly to their production as a process for combatting detrimental effects. This indicates that scrutiny needs to be given to each employee which is against the very principals of teamworking, and costly to administer, adding further to scheme overheads. There is also some evidence of “*incentive reversal*”, which refers to situations where an increase of promised rewards to all team members results in fewer exerting increased effort (Klor *et al.*, 2014), surprisingly they put in *less* effort in the presence of incentives (Frey and Jegen, 2001; Fehr and Falk, 2002; Gneezy, Meier and Rey-Biel, 2011). This is rather thought provoking as the whole aim of incentives is to improve productivity not stifle it. Other issues include claims by Cadsby, Fei and Tapon (2007) that performance is often overstated more often under target-based incentive schemes than under piece-rate or schemes that involved a tournament, possibly because it is harder to determine that foul play is at work.

It has been found that it is generally more beneficial for incentives to be distributed fairly, as when unequal it can be perceived as unfair and results in lower performance (Greenberg, 1986) and reduced commitment (Chebat and Slysarczyk, 2005) that ultimately leads to diminished input and output (Berger, Cohen and Zelditch, 1972) and even greater staff turnover and higher absenteeism (DeConinck and Stilwell, 2004). Another issue found is although incentives compliment task interdependence which is a positive aspect the closer co-operation results in lower awareness of individuals contributions making it difficult to identify, isolate and measure if needed (Nickel and O'Neal, 1990). This serves to blur individual contributions (Friebel and Schnedler, 2011) which results in management being unaware of individual workers who are guilty of social loafing or free-riding, making it harder to discipline them. Other related detrimental effects include when fellow team members witness their colleagues shirking they become psychologically reluctant to contribute and lower their efforts (Danilov *et al.*, 2013). A highly undesirable scenario that further complicates the principles of incentive schemes to aid increased levels of productivity.

After assessing the literature concerned with team incentives it is clear there are several gaps as identified in the discussion. There is very little literature readily available



when assessing what team incentives can be adopted to increase productivity (Hall and Weaver, 2001), there is also little material that explicitly addresses the performance effects of incentive plans specifically designed for teams alone (Bandiera, Baransky and Rasul, 2011; Babcock *et al.*, 2012; Van Lange *et al.*, 2013; Huber, 2015), leading to claims that “*the world of academia has ignored tangible incentives*” (Jeffrey, Dickinson and Einarsson (2013, p. 605).

### **2.3.7 Team Decision-Making Processes**

The process of making decisions is a constant practice we all experience. They all have varying levels of responsibility and are made by people in all types of contexts with each carrying its own unique set of consequences. People make decisions differently, some make them quick and some make them slow, others are more cognitive while some are more sentimental and some less so (Fitzgerald, Mohammed and Kremer, 2017). Despite the variables this is a very familiar task to almost everyone, it is something we are conditioned to do from an early age by the very nature of our existence.

Due to its importance, there has been a substantial amount of research into team decision-making processes (Highhouse, Dalal and Salas, 2013), with the subject extensively studied (Xiao *et al.*, 2014). On close examination such research has been undertaken in many different fields but there is very little comparison that can be made between the results achieved (Crowley and Zentall, 2013). It is also evident that there has been a lot more research conducted on individual decision-making and less so in team-based environments (Burke *et al.*, 2007).

Team-based organisations are increasingly devolving the function to team members (DeChurch and Mesmer-Magnus, 2010), therefore effective decision-making has become critical to team effectiveness (Wei *et al.*, 2009). When applied to a team environment decision-making can be described as a procedure of information processing (Duffy, 1993) by team members to achieve a satisfactory conclusion. The process itself is often complex as there are a considerable number of factors that influence the outcome achieved. This can be dependent on how people act and feel, the environmental setting of the process as well as the influence that decisions made prior by others has (Kugler, Kausek and Kocher, 2012).

Without doubt decision-making is central to teamworking, the very origins of which are derived directly from Mayo’s (1933) discovery that job satisfaction increased through



employee participation in the process while undertaking the famous Hawthorn Studies (Pugh and Hickson, 1989). This spawned the idea that individuals work more efficiently when arranged into teams and are allowed some authority and influence over their jobs, the first such study to do so.

Indeed, when employees are arranged into teams they now expect an increased amount of control over the decision-making process that directly affects them (Yun *et al.*, 2007), it is a natural progression for teams and acknowledged as a vital and un-dismissible fundamental component of the methodology (Guzzo and Salas, 1995; Yang, 2010). This is reinforced by extensive research that has concluded that team functionality improves significantly when team members are permitted to offer their own opinion and have more influence in the process (Katzenbach and Smith, 1993; Fisher, 2000). Therefore, when the level of autonomy allows it makes sense that every team has a vigorous process in place which is also touted by some as a competitive advantage (Rogers and Blenko, 2006).

The decision-making process in a team context is defined as “*the process by which a collective of individuals attempts to reach a required level of consensus on a given issue*” (Eliaz, Ray and Razin, 2005, p. 1); this is achieved when members “*draw conclusions, reach evaluations and make their choices*” (Highhouse, Dalal and Salas, 2013, p. 1). It is basic function of management that can contribute significantly to either the success or failure of the organisation (Pušeljić, Skledar and Pokupec, 2015).

It is also considered fundamental that team members take the initiative and make choices to solve their problems without waiting for direction from more senior figures (Wageman, 1997). Generally, the process follows a stepped approach (Fulop, 2005). First, the team must assess their surroundings and environment (Zsombok *et al.*, 1992; Hollenbeck *et al.*, 1995; Thordsen, Kyne and Klein, 2002). Second, they must use their knowledge to analyse the situation (Sonesh, Rico and Salas, 2013) and third, the team needs to converge all the individual opinions together (Eliaz, Ray and Razin, 2005) and finally the members must ultimately decide what they consider to be the best course of action from the information presented (Hollenbeck *et al.*, 1995; Brodbeck *et al.*, 2007). Adams and Galanes (2009) proposed that the process should have five characteristics, they include an assessment of the difficulty of the decision, solutions must be presented, team members should be interested





and familiar with the problem and the that the final solution is acceptable. There is some ambiguity present in the literature how the decision-making process is undertaken in teams, although several models have been proposed there is no universally accepted method which makes it difficult to adopt a steadfast approach. This lack of definitive direction makes it hard for team-based organisations to adopt a fixed process and therefore has consequences for accurately setting up and measuring the effectivity of this most fundamental of team elements, which is a gap in the literature.

For a fair decision to be made it is considered vital that consensus is achieved and as many stakeholders as possible are present and involved. This is important because it is generally agreed that the more contributors present then the higher number of solutions are proposed. This leads to more alternatives for consideration, which in turn helps to increase the quality of the decision, aids acceptance and provides everyone involved with a better comprehension of why the conclusion was met, which aids deeper cohesion (Gunnarsson, 2010; Proctor, 2011). One negative aspect of having many stakeholders is the discussions can impact the teams original unified position especially if they are intense and prolonged (Bonito, 2011). The ideal number of stakeholders that enables effective team decision-making has not been clearly identified in the literature. There are many arguments that there can be too few or too many, but no approximate numbers are given, this is a further gap.

It is important for team unity that members are careful not to be dogmatic, domineering or try to force decisions (Bormann and Bormann, 1988). The process needs to play on the strengths of teamworking as one of its most documented benefits is the sharing of information by fellow team members (Troy, Hirunyawipada and Paswan, 2008; DeChurch and Mesmer-Magnus, 2010). It is the accumulation of relevant information and experience that offers team decisions their credibility and possibly provides an explanation why they are found to usually make more logical strategic decisions than individuals achieve alone (Charness and Sutter, 2012; Kugler, Kausek and Kocher, 2012; Penczynski, 2016), effectively following the rational that “*two heads or more are far better than one*”, which in simple terms is the very basis of collaboration.

A major part of this process is the expectation that any gaps present in the knowledge of one team member is filled in by the know-how of others (Lunenburg, 2010). To make sure this is accomplished it is essential that any relevant unique information is openly shared



(Brodbeck *et al.*, 2007). This also gives team members the chance to have their voice heard and discuss what could be distinctive information that possibly contains a key argument. The absence of a safe forum in which members can express their ideas can result in the introduction of dysfunctional factors that undermine the very nature of teamworking (Bazerman and Chugh, 2006) and have serious effects on the outcome of the final course of action.

A resounding finding from the literature is that clear communication should be maintained between team members; although this can be challenging when people have different points of view, preferences or even agendas (Sonesh, Rico and Sales, 2013), distinct or hidden. It must also be considered that no matter how much information is present there is always going to be a mixture of analytic considerations formulated from the discussion and always some intuitive bias present (Banks and Dhami, 2014). Such factors can possibly be mitigated by training but never fully eliminated due to the unconscious “*internal bias*” present in everyone, although an accurate definition of this phenomena when applied in a team context has yet to be addressed in-depth by the literature, a further gap.

During the actual debating process, it is important that team members are respectful and supportive of one another and realistic in their mutual expectations (Harris and Harris, 1996), they must carefully listen to all ideas and opinion (Critchley and Case, 1986). Team members should also be aware of their delivery of their argument, as generally the more sophisticated it is then the more persuasive it becomes (Penczynski, 2016). It is also important for team members to feel uninhibited to engage in open dialogue and be candid in their communications, which makes the process far more robust (Bradley and Frederic, 1997; Kets De Vries, 1999). When such qualities are present the final decision is made by a culmination of constructive feedback (Harris and Harris, 1996) by team members who are committed and often display increased levels of performance (Blechert, Christiansena and Kari, 1987; Wakeling, Beatson, and Purcell, 2015).

The actual infrastructure of the decision-making process should be incorporated during the team foundation phase because of the criticality. One of the fairest methods is the democratic model where one member gets one vote and a decision is approved by majority (Mohammed and Ringseis, 2001). Obviously, one drawback is that not everyone in the team



will agree on the outcome (Ellis and Fisher, 1994) and therefore may not give it their full support. It has been suggested that team members subjected to majority rules also illustrate greater compromise which can act to effectively smother the sharing of minority viewpoints; reduce the comprehensive discussion around different options and possibly hold up the team integrative process (Neale and Bazerman, 1991), which is central to co-operative working. If majority rule is the teams or organisations decision-making process of choice it is imperative that team members participate and accept the results of the process in a non-defensive manner (Harris and Harris, 1996). This has in some cases been found to make the system of information processing more limited and is also associated with lower levels of cognitive consensus (Mohammed and Ringseis, 2001). The problem with lower cognitive consensus is there can be a reduction in the decision implementation expectations and satisfaction levels (Fitzgerald, Mohammed and Kremer, 2017).

An alternative method is consensus voting, where all the team's members are required to agree and be committed to the decision prior to it being made (Mohammed and Ringseis, 2001). This is easier to implement when members share common objectives, have equal status, adapt a balanced participation and are not steadfast in their opinions (Ellis and Fisher, 1994). By the very nature of teamworking the diversity in a team does not support these principals, every member is unique and has different cognitions and beliefs which all affect the process. The literature fails to recommend a clear method in which teams should make decisions, granted the rules of the process are affected by the team and its operational environment but this part of the literature lacks generalisability. There is also limited literature available on actual studies that observed the process within teams in a practical context, the absence of direction is a gap as consultation can lead to inconclusive outcomes with only limited ambiguous direction offered.

Researchers also suggest that team composition influences decisions, they report that heterogeneous teams possibly make better decisions than homogeneous ones, due to the diversity present which provides a greater range of choices (Eisenhardt, Kahwajy and Bourgeois, 1997). However, others have found that many of the claimed benefits of a heterogeneous team may disappear given the tendency for team members to only share information already known to each other (Mohammed and Ringseis, 2001). There is also evidence that members in such teams can often compete against each other to “win”, not considering the real outcome or effect on team collaboration of their stubbornness, which



often suffers because of strong members egos. There is also negativity associated with the presence of competing styles and the waste of effort applied by members fighting for their own personal recommendations to be used as sole solution to the issue in hand (DeChurch, Hamilton and Haas, 2007).

This presence of conflict in teams has been found to be beneficial on occasions because it can lead to better quality decisions and builds additional support for decisions after they are made (Simons and Peterson, 2000). DeChurch, Hamilton and Haas (2007) however disagree stating that conflict can quickly turn into relationship conflict which affects team efficiency because members can become dissatisfied and frustrated with one another. This division can expose personal animosities and incompatibilities within the team which can then produce negative effects and spreads further dissatisfaction. Such issues affect member commitment and inevitably has an influence on the quality of the decisions because the team's information processing ability can become limited. There can also be increased stress and anxiety which encourages antagonistic or sinister behaviour (Simons and Peterson, 2000). These factors can combine and lead to a situation where the team breaks down and fails as members working together find it impossible to continue operating as a team (Penczynski, 2016). Therefore, it is critical no matter what decision-making method is adopted, getting the process correct is vital, another reason why this field possibly needs further attention.

Teams can also make decisions that are far from ideal (Stasser and Titus, 2006; Kolbe, 2007), which can result in the inferior performance (Zajac *et al.*, 2013). To mitigate any risk of making poor decisions training should be considered for team members (Salas *et al.*, 2007) allowing them to possess the necessary skills. As without a solid understanding of how teams should make decisions, there is ultimately going to be negative effect on the ability to see why members are making errors. The delivery of suitable training may be difficult because there is a lack of understanding regarding team decision-making theory, a field that according to Salas *et al.* (2007) has plenty of room for improvement. This is another gap in the literature which would it seem benefit from additional research.

Further issues include team members can occasionally be reluctant to take on the responsibility that comes with playing a role in making decisions (Yang, 2010), it can make the workspace a “*stressful environment*” that imparts an effect on the way “*individuals and*



*teams make decisions*” (Kerr and Tindale, 2004, p. 630). At an individual level the result of stress can alter the way people think about the information they are receiving and has been found to impact an influence on the type of decisions they make (Starcke and Brand, 2012). Similarly stress at a team level has been found to have implications for making correct decisions, it can also add confusion to the process by changing the way teams gather, weigh and exchange information (Burke *et al.*, 2007).

Other problems that can be present in a team environment during decision-making include, social pressure toward conformity, individual domination, conflicting secondary goals, undesirable compromises, ambiguous responsibility and time pressures (Gunnarsson, 2010; Schoenfeld, 2011). There are also findings that suggest the actual process of sharing information although viewed as critical by some may not have as much of an impact as first thought. This is very dependent on the information the team focuses on (Xiao, Zhang and Basadur, 2016) and the circumstances in which the decision is being made (Stasser and Titus, 1985; Henard and Szymanski, 2001; Larson, 2009). Team members can also have issues with contrasting functions and interpret problems differently to one another, this can reduce the cognitive demand of evaluating all the shared information but instead focus mainly on self-relevant information (Cronin and Weingart, 2007). This possibly makes any decisions more self-centred and not necessarily with the common good of the wider team in mind. Intuition is another issue, forever present, it is considered a source of bias and potentially contributes to more self-centred decisions being made (Croskerry, 2002; Norman and Eva, 2010).

Teams can also be susceptible to “*groupthink*” (Moorhead, Neck and West, 1998) alternatively known as “*herding instinct*” (Tremper, 2008). This is a phenomenon that occurs when the desire for cohesiveness and consensus in teams becomes stronger than the desire to make the best possible decision (Schafer, 2011), which effectively changes rational judgement (Orasanu and Salas, 1993). Janis (1982) identified that some team members can occasionally concentrate solely on building relationships as a way of forming an effective team, in doing so they can develop bad decision-making habits that aim to preserve the team’s unity rather than make the right decisions, this is usually a phenomenon found in a deeply cohesive team (Orasanu and Salas, 1993). The consensus that such teams possess can lead them to believe that all the decisions they make are practically perfect and any dissenting views are quickly suppressed to preserve unity (Peterson, 2007). The members desire to keep harmony within their team supersedes them realistically considering alternative courses of action (Moorhead,



Neck and West, 1998). The most controversial aspect of the theory is the idea that team characteristics traditionally seen as having a positive influence on decision-making and team effectiveness such as cohesion and collective efficiency can possibly be found to contribute to negative decision-making outcomes (Kerr and Tindale, 2004). If some team members feel their ideas are constantly stifled this can also lead to frustration which can encourage disunity. There is weakness in the literature on the whole issue of “*groupthink*”, the significance of team members putting the interests of their teams before the organisation seems to be a matter that is rather concerning. The literature lacks any definitive or decisive arguments how to recognise and mitigate against the phenomena occurring, therefore this area should be subject to more comprehensive research and is a gap. One method that can help to avoid this phenomenon includes introducing positive conflict to a team which ensures more options are considered and decision-making continues to follow a rational process (Eisenhardt, Kahwajy and Bourgeois, 1997).

The literature displays evidence that conflict has both positive and negative effects on decision-making (Simons and Peterson, 2000; DeChurch, Hamilton and Haas, 2007) although again neither are clearly validated. There are indications in the field that low levels of conflict during decision-making can often result in poor decisions, Eisenhardt, Kahwajy and Bourgeois (1997) found this to be especially true when elevated levels of safety must be maintained. Another problem to be aware of is indecisiveness which can adversely affect the process, this is closely correlated to decisional confidence (Ferrari and Dovidio, 2001; Veinott, 2002; Mirels, Greblo and Dean, 2002; Rassin *et al.*, 2007). If the two are present they can result in the consumption of additional time and resources which affects the efficiency of the process because of prolonged delays (Patalino and LeClair, 2011). The evidence suggests that neither result in better outcomes either (Ferrari and Dovidio, 2001), but they can impact organisational efficiencies and the bottom line. This is yet another aspect of the team decision-making literature that fails to offer a clear outcome and definitive direction, there is no great depth in the current literature on the matter of conflict and decision making, this therefore a further gap.



### **2.3.8 Knowledge Gaps in the Key Areas Assessed by Literature Review**

The principal objective of the literature review is to identify and assess previous research relevant to the topic of interest. This is undertaken to expose issues which may require further investigation (Ticehurst and Veal, 2000). During the review of literature appropriate to this study the following knowledge gaps have been identified:

When considering team training the evidence suggests that it does indeed work (Salas *et al.*, 2008b; McEwan *et al.*, 2017). However, after an examination of the associated literature it is apparent that gaps do exist. There is no definitive direction available in the literature on what actual components of teamworking are the most suitable for delivery during training, which ones achieve the biggest improvements and offer the most positive outcomes. There is also a lack of any conclusive material on what specific format of training presents the highest levels of improvements in team effectiveness (Buljac-Samardzic, Dekker Van Doorn and Van Wijngaarden, 2010).

There are many supporters that argue training is most effective during the initial launch of teamworking with cautions it is undesirable to leave training to the point where teams are mature and well established in an organisation. What is lacking is there are no definitive periods given for how long the “*initial*” stage lasts for, neither are there any conclusive reasons forthcoming why training possibly loses its effectivity if delivered to mature teams as claimed.

The literature also states that effective training is dependent on organisational factors such as leadership support, resource availability, training environment and team members readiness for change. Except for resource availability all the other factors are difficult aspects to measure and even more complex to assess when evaluating their potential impact on training, direction is again lacking in this matter. There is a void in much of the literature on team training which makes any consultation quite difficult, the matter is clearly not sufficiently supported by scientific understanding (Gustafson and Beaubien, 2005).

There is further ambiguity on the matter of team coaches who act as important intermediaries who support team training. What skills make an effective coach is omitted and no clear answers are offered. Further points that were noted during the review include clear support in the literature for CRM and MRM programmes, but there is a lack of significant





detail present. These schemes are professed to hugely beneficial and are claimed as being extensively used in aviation. There is a lot of conflict present in the literature about the content of such programmes and delivery methods as well as frequency and the refreshment rates required of this specialist training that is claimed to offer impressive results. Although it is generally agreed that such programmes are favourable the lack of in-depth literature can leave individuals, teams and organisations at odds on how to appropriately implement such specific training schemes which can result in them becoming somewhat daunting and possibly overlooked.

When assessing the literature on team roles and responsibilities it is clear this topic has received a substantial amount of research but on close examination there is considerable ambiguity present. There is no doubt that clear team roles and responsibilities are vitally important, what is in doubt is specific criteria required to enable these to function as efficiently as possible. This matter has received limited attention along with what is the minimum composition needed for teams to function correctly. It is acknowledged that the selection of appropriate members is a challenge (Eells and Rockland-Miller, 2010) but no clear definitive literature is present.

There is difference of opinion found on the ideal number of members needed for a team to run at an optimal level and ensure all the required teams roles and responsibilities (once identified) are correctly serviced. There is also complexity present with what team roles are most suitable for allocation to what personality of team members (Van de Water, Ahaus and Rozier 2008; Pries-Heje and Commisso, 2010), although it is regularly touted in the literature. There are several claims in the literature that every team is unique and so are their needs regarding the number of members and what are the most suitable roles and responsibilities (Senior, 1997; Park and Bang, 2002). This is possibly an admission that the matter will never be understood clearly and potentially nullifies much of the knowledge already accumulated on the matter.

There are no precise solutions or direction given which is possibly one of the most central characteristics of teamworking. There are suggestions a “*balanced*” team is the most suitable approach to ensure team effectivity. The question posed is what is a “*balanced*” teams



as opposed to an “*un-balanced*” team as no viable definition of each term has yet been forthcoming (Van de Water, Ahaus and Rozier, 2008).

When assessing the literature regarding the use of incentives in teams it is acknowledged that clear gaps exist and there is a void of information, although the depth and frequency of studies is increasing (Babcock *et al.*, 2012). The lack of current research is not helped by the fact that analysis of the relationship between team incentives, worker participation and productivity can be a challenging exercise (Hamilton, Nickerson and Owan, 2003) which only serves to complicate the issue and potentially stifles enthusiasm for more common investigations of the matter.

Most of the team-based studies associated with incentives are often limited to examining the productivity impact of moving targets from time-rates to piece-rates (Paarsch and Shearer, 1999; 2000; Lazear, 2000; Shearer, 2004). They frequently focus on monetary rewards, leaving the effects of non-monetary incentives on team behaviour waiting to receive an in-depth examination (Hammermann and Mohnen, 2014). Consequentially, it is accurate to conclude that the use of incentives beyond the effect of straightforward process modifications and the changes associated with monetary rewards in teamworking is an area of interest that is longing for increased research with many gaps present, therefore practically any additional research on this matter will serve to complement the present literature.

When assessing team decision-making processes there is a comprehensive field of research already undertaken and much literature readily available. This has been accomplished across many distinct parts of the process which makes comparison hard to achieve. The literature is relatively unique to the environment in which it was undertaken and lacks generalisability. The studies undertaken have also predominantly focused on individual decision-making rather than team-based processes which also narrows the scope and applicability of the accompanying literature.

Some of the literature reports that a higher number of stakeholder’s results in a better decision (Gunnarsson, 2010; Proctor, 2011), other parts question this as objectionable and regard too many participants results in the process getting “*bogged down*” which can have a significant impact on organisational stability (Bonito, 2011). Once again specific numbers or definitive arguments for either are found to be missing.



The literature is also divided on what is the most suitable method in which to make team-based decisions. Several methods are reported to be more member friendly than others although none are clearly endorsed, which makes adoption hard because of the lack of consensus. Further weaknesses are found when considering what types of teams make the best decisions, is it heterogeneous or homogeneous teams, again no convincing arguments or supporting research is presently available.

On balance there are many gaps present in the literature associated with team decision-making process literature. In fact, it has been argued that the entire field lacks understanding and would no doubt benefit from further research (Salas *et al.*, 2007). Therefore, this is another area of teamworking that is suitable for further improvement by increased research. This concludes the discussion on the various gaps within the team present team literature

## **2.4 Key Areas and Pertinent Management Methods**

### **2.4.1 Accountability of Key Areas Considered During the Literature Review**

Since the early 1990's Company 'A' has witnessed a substantial amount of change in the management methods used in practice. During this time the organisation has transitioned from operating in a scientific management fashion to one that endorses a system of teamworking that interestingly must abide by the principals of lean management. Table 2.3 illustrates the broad characteristics associated with each of the three methods of management the facility has experienced over the last three decades.

**Table 2.3:** Typical characteristics of scientific management, lean and teamworking methods of managing.

<b><i>Typical Characteristics Associated with Scientific Management Practices</i></b>	<b><i>Typical Characteristics Associated with Lean Management Practices</i></b>	<b><i>Typical Characteristics Associated with Team Environment Practices</i></b>
<ul style="list-style-type: none"> <li>• In an organisation run on scientific management principals everything is under total management control. Such organisations are often administered by a complex structure of several layers of management. There is no input given into any decisions that involve how the organisation is run by any production area employees, the managers word is final and not debatable. In this kind of system</li> </ul>	<ul style="list-style-type: none"> <li>• Within lean organisations managers play the role of facilitators in a learning organisation, with clear delegation and open communication. In a practical environment lean is applied as a set of management practices, tools and techniques (Shah and Ward, 2007). This allows organisations to specify value and arrange actions that create such value in the most effective sequence</li> </ul>	<ul style="list-style-type: none"> <li>• In an operational environment that demands high reliability which has embraced a system of teamworking such as the one investigated in this study, teams have significant authority. They are often responsible for production and have input in many decisions within the team's respective area as well as high-level decision-making powers. Team typically have input into other organisational functions</li> </ul>



<i>workers are usually arranged in a production line and perform the same task daily with little or no variation present. There is an extremely strong culture of command and control and all instructions are structured and liner driven from the top-down.</i>	<i>possible, it also encourages activities to be completed without interruption when requested (Womack and Jones, 2010). This creates a culture of continuous improvement based on strong involvement of all employees (Byfuglien, Torstensen and Trolie, 2014) making efficiencies increasingly effective (Womack and Jones, 2010). It a partnership between managers and team-based employees.</i>	<i>including team roles and responsibilities, training interventions, production targets. The introduction of new products or modification of present processes would all involve input from the relevant teams. Internal decision-making is a process totally owned by the teams alone. The rewards associated with an incentive scheme would likely be framed by the company but would also seek the opinion of the teams.</i>
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Source: Developed for this Research (2018).

Table 2.4 illustrates who is responsible for each of the four key areas in organisations that operating using one of the three management methods.

**Table 2.4:** A comparison of key literature areas discussed in the literature review with who typically holds responsibility when considering three prominent management methods.

<b>Key Area Identified</b>	<b>Responsibility for Key Area in an Organisation Using Scientific Management Methods</b>	<b>Responsibility for Key Area in an Organisation Using Lean Management Methods</b>	<b>Responsibility for Key Area in an Organisation Using Teams</b>
<b>Training</b>	• Managers responsibility.	• Manager and team's joint responsibility.	• Team's responsibility.
<b>Roles and Responsibilities</b>	• Managers responsibility.	• Manager and team's joint responsibility.	• Team's responsibility.
<b>Incentivisation</b>	• Managers responsibility.	• Manager and team's joint responsibility.	• Team's responsibility.
<b>Decision-making</b>	• Managers responsibility.	• Manager and team's joint responsibility.	• Team's responsibility.

Source: Developed for this Research (2018).

Additional to the providing solutions to the research problem and questions the findings will be utilised to perform an important gap analysis to determine who is accountable for each of the four key areas in Company 'A' considering the site has relatively recent experience of all three management systems. This will question "what management method is operating in the key areas of team training, team roles and responsibilities, team incentivisation and team decision-making at Company 'A'?" This will provide a useful comparison of who possesses authority for certain organisationally professed "team" functions. This data can be used to accurately assess if any of the key areas require further devolution or be subjected to a status review, this will be discussed further in chapter six, section 6.10.1. This chapter will now conclude with a summary.



## **2.5 Chapter Summary**

### **2.5.1 Summary**

The completion of a review of relevant literature is arguably the most significant exercise of any research endeavour. Overall the importance of the review cannot be exaggerated as its purpose of identifying and exploiting a limited number of the shortcomings found in the team literature which is essential to allow the research process to continue and ensure have both satisfactory and fulfilling outcomes. It is possibly also the most painstaking of the whole research process because it involves a significant amount of strategic and clinical investigation of a large volume of data. The execution of the review is however a necessity as it allows the researcher to identify gaps within the current pool of knowledge that in-turn provides an opportunity for further research to fill a small portion of such gaps allowing the whole research exercise to be worthwhile and value added as it further advances our understanding of such matters and fills in some the gaps that have been found. This can be achieved from either a theoretical or practical standpoint or a combination of the two.

With the field of teamworking of an undoubtable interest, many of the components that affect the method have been studied in great depth, some areas however remain elusive and relatively underexplored. After examination of the literature many gaps are found to be present in all components scrutinised, they are clearly identified during this chapter. It is encouraging that there are many areas that are ripe for further investigation. Caution must be applied to bind such studies as they can evolve into extensive exercises that demand considerable resources, for this study there are limited resources available because the study is being completed by a single sole researcher. To mitigate against failure strategic decisions must be made as to the scale of the investigation being undertaken as when over-ambitious the result can be a piece of research that is simply too large to conclude satisfactory. This is all part of the skills that need to be learned and perfected to be an effective researcher, now this process is complete the methodology chapter will be presented.

\*\*\* End of Chapter 2 \*\*\*



## **~ Chapter 3 – Methodology ~**



## CHAPTER

# 3

## 3.0 METHODOLOGY

*“LEARN FROM YESTERDAY, LIVE FOR TODAY, HOPE FOR TOMORROW, THE IMPORTANT THING IS NOT TO STOP QUESTIONING... AS CURIOSITY HAS ITS OWN REASON FOR EXISTING.....”*

*~ Albert Einstein*

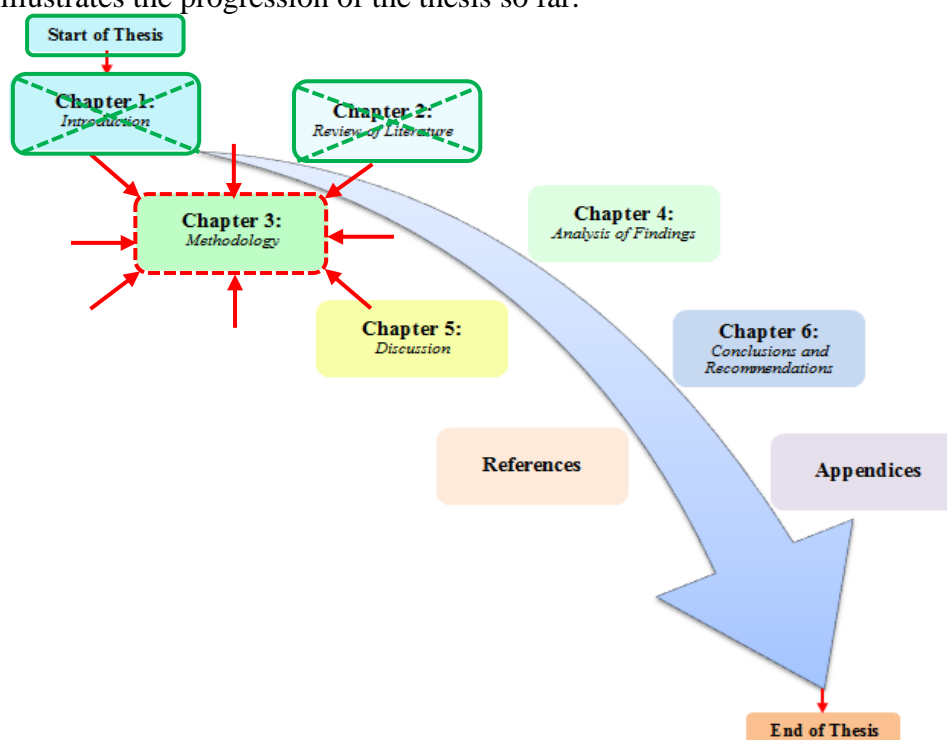
(1879 – 1955)

*German-American Theoretical Physicist and Philosopher of Science, Nobel Prize Winner, Developer of Theory of Relativity*

### 3.1 Thesis Progression

#### 3.1.1 Progress Map

The third chapter discusses the research methodology employed during the research. Figure 3.1 illustrates the progression of the thesis so far.



**Figure 3.1:** This chapter is concerned with the methodology employed to complete the study.

### 3.2 Chapter Introduction and Objectives

#### 3.2.1 Introduction

Effective research is a methodical process that operates within established frameworks and appointed guidelines to achieve the desired outcome of approaching and positively answering the research problem under investigation (Sekaran, 1992; Leedy and Ormrod,





2005; Williams, 2005). It is achieved by employing research methods that provide “*the way to the goal*” (Kvale, 1996, p. 278). Once the aim is identified and justified, the researcher then needs to be clear about the objectives of the inquiry and have a sense of what kind of things they potentially want to uncover. As this investigation is focused on resolving a problem that has not been the subject of previous investigation it is said to be exploratory in nature. Exploratory research is undertaken to provide greater understanding of a concept or used to clarify issues, it typically has the expectation that additional research will possibly be carried out to provide conclusive proof of the phenomenon and is usually predominantly qualitative in nature (Zikmund, 2003). The research strategy in this thesis is categorised as a “*case study*”; which is described as an exploratory analysis of a person, group or event that can include single or multiple studies and relies on several or more sources for evidence (Yin, 2014). The outcome is a written account that contains detailed information about the matter under investigation (Collins, 2018). The research will be described as “*case study*” where appropriate from this point forward.

From a researcher’s perspective there are several demands placed upon them, they must decide on an approach or design that outlines the overarching strategy of how the research process will be undertaken (Bryman and Bell, 2007). This is the “*strategic framework for action that serves as a bridge between research questions and the execution or implementation of the research*” (Durrheim, 2002, p. 29), a fundamental pillar of any study. Concepts such as paradigms (Mertens, 1998; Lincoln and Guba, 2005), philosophical assumptions (Crotty, 1998) and research methodologies (Neumann, 2000) must also be considered. They give the researcher an overall plan for obtaining answers to the research problem and offers a contingency for handling difficulties encountered during the process (Polit, Beck and Hungler, 2001), essentially a “*strategy for linking questions, methods and evidence*” (Schwandt, 2001, p. 229).

### **3.2.2 Objectives of the Chapter**

As the research problem and associated questions are formulated and the literature review is complete it is the purpose of this chapter to describe the action taken to create the methodological framework that will be employed to collect, analyse and interpret data. This must be conducted in an ethical manner and offer safeguards on reliability, validity and



reflexivity that will culminate in the successful accomplishment of the case study. The process associated with the choice of appropriate research paradigm will now commence.

### **3.3 Research Paradigmatic Considerations**

#### **3.3.1 Research Paradigms**

Paradigms are described as a way of “*understanding and explaining how we know what we know*” (Zagzebski, 1997, p. 267). They are a set of assumptions for observing the best method of inquiring about what constitutes justification for such holding knowledge (Edgar and Sedgwick, 2003). Paradigms aid the critical study of the principles, hypotheses and results to determine their value (Browaeys, 2004), being “*concerned with providing a philosophical grounding for deciding what kinds of knowledge are possible and how we can ensure that they are both adequate and legitimate*” (Maynard, 1994, p. 10). The receipt of knowledge does not always arrive unmediated, rather it is constructed by an interaction between the researcher and the world they are investigating (Takacs, 2003); with any results achieved, influenced by the researcher’s paradigmatic worldview.

For this case study, a review and analysis were undertaken of the four mainstream research paradigms as proposed by Guba and Lincoln (1996) who’s published literature is described as “*incredibly helpful in articulating and distinguishing opposing paradigms of investigation*” (Aliya *et al.*, 2014, p. 79). The four paradigms in order of examination are as follows:

- 1) The positivist paradigm.***
- 2) The post-positivist paradigm.***
- 3) The critical theory paradigm.***
- 4) The constructivist paradigm.***

#### **3.3.2 Positivist Paradigm**

In general, positivism is principally associated with the quantitative methodology, it can be defined as an approach which applies controlled methods of natural science to study human activity using objective enquiry, it thereby supposes there is unity of the sciences (Hollis, 1994; Delanty and Strydom, 2003). It further assumes that “*natural and social sciences measure independent facts about a single apprehensible reality composed of discrete elements whose nature can be known and categorised*” (Perry, Riege and Brown, 1999, p. 16).



A positivist investigator is said to believe that the universe or world we live in conforms to permanent and unchanging laws and rules of causation and happenings (Aliyu *et al.*, 2014). When using the paradigm, questions and/or hypothesis are proposed by the researcher and subjected to empirical testing within a controlled environment that ensures the research outcomes are not influenced (Guba and Lincoln, 1994). The paradigm consists of controlled experiments and/or surveys conducted usually with a large representative population.

### **3.3.3 Post-Positivist Paradigm**

Post-positivism is comfortable with both a quantitative and qualitative methodology, it is a “*type of research that is searching, albeit necessarily imperfectly, towards an understanding of the common reality of a system in which many people operate independently*” (Perry, Riege and Brown, 1999, p. 18). As the label implies it has a relationship in its beliefs to positivism, although there are several distinct differences. Firstly, the “*truth produced... is simply our belief in the truth of current tested hypotheses*” (Popper, 1959, p. 415). Secondly, “*the principle of falsification argues that scientific theories can never be proven true*” (Ernest, 1994, p. 22), therefore, “*scientific statements must remain tentative forever*” (Popper, 1959, p. 280), as the knowledge acquired is uncertain, hypotheses are not proven but also cannot simply be rejected (Creswell, 2014). Post-positivists seek to understand causal relationships where experimentation and correlational studies are used (Scotland, 2012), to understand scientific theories. The paradigm is versatile and accommodating, believing that something more than “*empirical data is needed*” (Crotty, 1998, p. 29). It is also somewhat accepting that research findings are subject to interpretation (Sayer, 2000) and knowledge growth can come from un-scientific sources (Fox, 2008).

The paradigm is cautious concerning strong and one-sided interpretations and shows restraint with regards to the over-extensive or obsessive use of qualitative methods (Adam, 2014). The paradigm claims that acquired knowledge is more certain and objective than knowledge that originates from other paradigms (Scotland, 2012). It also distinguishes that theories, background, knowledge and values of the researcher can influence what is under observation (Racher and Robinson, 2002).

Due to the perceived inherent imperfection of any one research method, post-positivist-based research should contain significant elements of triangulation of several perceptions of reality to gain an understanding of the phenomenon under study (Guba and



Lincoln, 1994). This is executed by multiple measures and observations each of which may have distinct types of errors included; the use of triangulation across these multiple sources of error is used to try to get a better idea on what is occurring (Trochim, Donnelly and Arora, 2016). This needs to be completed diligently as it can result in the opposite occurring with the results becoming confusing. Obviously, this will serve to hamper efforts to produce meaningful research with clear outcomes.

#### **3.3.4 Critical Theory Paradigm**

The critical theory paradigm is predominantly affiliated with the qualitative methodology, the *“aim of the inquiry is the critique and transformation of the social, political, cultural, economic, ethnic and gender structures that constrain and exploit humankind, by engagement in confrontation, even conflict”* (Guba and Lincoln 1994, p. 113). The theory argues that realities are socially constructed entities that are under constant internal influence (Scotland, 2012), with differences present between reality and people’s perceptions of reality (Bisman, 2010). Such perceptions are concerned with empowering human beings to transcend constraints placed on them by race, class power (Creswell, 2014) and gender (Fay, 1987). The method is versatile and allows for different techniques to be used to access distinct features of the same social phenomenon (Sayer, 2000; Carter and New, 2003), believing; *“what counts as knowledge is determined by the social and the positional power of the advocates of that knowledge”* (Cohen, Manion and Morrison, 2013, p. 27). Actors are assumed to not only be *“in”* the world, but also live *“within”* it (Crotty, 1998, p. 149), therefore there is an *“emergent, recursive relationship between theory, data, research questions and interpretation”* (Talmy, 2010, p. 130). This approach is often used for *“long-term ethnographic and historical studies of organisational processes and structures”* (Perry, Riege and Brown, 1999, p. 17), to achieve the desired aims. It also demands that investigations *“begin with an in-depth and intensive historical and structural analysis of pre-existing institutional forms”* (Reed, 2005, p. 1639).

#### **3.3.5 Constructivist Paradigm**

The constructivist paradigm is essentially connected with the qualitative methodology, it is concerned with *“interpretation, multiplicity, context, depth and local knowledge”* (Ramey and Grubb, 2009, p. 80). The position acknowledges that the social nature of *“formal knowledge develops within a community of experts”* (Richardson, 2005, p. 1624) in which



individuals act as “*passionate subjects*” (Guba and Lincoln, 1994, p. 112). Constructivism is also referred to as naturalistic inquiry (Lincoln and Guba, 2005), it seeks to conduct research from the subject’s point of view and recognise them as active members within it, it’s also claimed as being broad in nature (Bryman and Bell, 2007). Knowledge and meaningful reality are constructed in and out of “*interaction between humans and their world and are developed and transmitted in a social context*” (Crotty, 1998, p. 42); therefore the “*social world can only be understood from the standpoint of individuals who are participating within it*” (Cohen, Manion and Morrison, 2013, p. 19). The paradigm accepts that their meanings are varied and multiple, leading the researcher to look for the complexity of views rather than narrowing meanings into a few categories or ideas. Researchers undertaking studies within the parameters of the constructivist paradigm all share the goal of relying as much as possible on the subject’s view of the situation under examination. It is therefore essential that they readily recognise their background and life experiences can influence the interpretation of the data they have collected. To mitigate such effects, they must “*position themselves in the research to acknowledge how their interpretation flows from their own personal, cultural and historical experiences*” (Creswell 2014, p. 9). This adds to the quality and provenience to the research by increasing its validity and reliability.

### **3.3.6 Summary of the Four Research Paradigms**

A summary of the four paradigms principal characteristics is provided in Table 3.1.



**Table 3.1:** The essential characteristics of the four mainstream research paradigms.

<b>Paradigm / Characteristic</b>	<b>Positivism</b> (Predominantly Quantitative in Nature)	<b>Post- Positivism</b> (Equally Quantitative/Qualitative in Nature)	<b>Critical theory</b> (Predominantly Qualitative in Nature)	<b>Constructivism</b> (Predominantly Qualitative in Nature)
<b>Nature of Knowledge</b>	• Verified hypotheses established as fact or laws.	• Non-falsified hypotheses that are probably facts or laws.	• Structural/historical insights.	• Individual reconstruction merging around consensus.
<b>Knowledge Accumulation</b>	• Accretion, “building blocks” adding to “edifice of knowledge” generalisations and cause-effect linkages.	• Accretion, “building blocks” adding to “edifice of knowledge”, generalisations and cause-effect linkages.	• Historical revisionism, generalisation by similarity.	• More informed and sophisticated reconstructions, vicarious experience.
<b>Quality Criteria</b>	• Conventional benchmarks of “rigor” internal and external validity, reliability and objectivity.	• Conventional benchmarks of “rigor”, internal and external validity, reliability and objectivity.	• Historical situations, erosion of ignorance, action stimulus.	• Trustworthiness and authenticity and misapprehensions.
<b>Voice</b>	• “Disinterested scientist” as informer of decision makers, policymakers and change agents.	• “Disinterested scientist” as informer of decision makers, policymakers and change agents.	• “Transformative intellectual” as advocate and activist.	• “Passionate subject” as facilitator of multi-voice reconstruction.
<b>Training</b>	• Technical and quantitative, substantive theories.	• Technical, quantitative and qualitative, substantive theories.	• Resocialisation, qualitative and quantitative, history, values of altruism and empowerment.	• Resocialisation, qualitative and quantitative, history, values of altruism and empowerment.
<b>Accommodation</b>	• Commensurable.	• Commensurable.	• Incommensurable.	• Incommensurable.
<b>Hegemony</b>	• In control of publication, funding, promotion and tenure.	• In control of publication, funding, promotion and tenure.	• Seeking recognition and input.	• Seeking recognition and input.
<b>Ontology</b>	• Naive realism “real” reality but apprehendable.	• Critical realism “real” reality but only imperfectly and probabilistically apprehendable.	• Historical realism, virtual reality shaped by social, political, cultural, economic, ethnic and gender values crystallised over time.	• Relativism local and specific constructed realities.
<b>Epistemology</b>	• Dualist/objectivist, findings true.	• Modified dualist/objectivist, critical tradition/community, findings probably true.	• Transactional/ subjectivist, value mediated findings.	• Transactional/ subjectivist, created findings.
<b>Methodology</b>	• Experimental/manipulative, verification of hypotheses, chiefly quantitative methods.	• Modified experimental/manipulative, critical multiplism, falsification of hypotheses, includes quantitative or qualitative methods or a mixture.	• Dialogic/dialectical, chiefly qualitative methods.	• Hermeneutic/dialectical, predominantly qualitative methods.

Source: Mouton and Marais (2003), Lincoln and Guba (2005) and Neumann (2007).

~ What Inhibits Teamwork in Safety Critical Organisations ~



### **3.3.7 Justification for the Choice of Appropriate Research Paradigm**

To begin the process of elimination the positivist paradigm was not considered an appropriate choice in which to conduct this case study for a few reasons. Firstly, because the nature of this study was exploratory it was not ideally suited to any style of quantification (Zikmund, 2003). Secondly, the single apprehensible reality could be differently viewed and acted out by dissimilar research subjects who are also not well suited to quantitative research methods. Thirdly, the research problem was not posed in terms of verification of a hypothesis and the case study was not intended to be conducted empirically within a controlled environment. Fourth and finally teams are fluid, adaptive systems that are in a constant state of flux, therefore they are not subject to permanent and unchanging laws and rules of causation and happenings, which are a fundamental of positivism. It is the combination of these reasons why the researcher effectively ruled out taking a positivist approach in this case study.

When assessing suitability of the post-positivist paradigm which is largely qualitative in nature it was worth bearing in mind that this study is exploratory and therefore well suited to the qualitative methodology (Zikmund, 2003). This combined with the fact that this case study attempts to understand the independent actions of subjects in teams within a system meant it could be an appropriate choice in which to undertake the study. However, after careful consideration it was eventually rejected. This was due to the size of the population of subjects that access will be readily available being relatively small. Therefore, this research did not lean towards a quantitative methodology, which is an appropriately used methodology within the post-positivist paradigm and involves larger numbers of subjects that are not available. Furthermore, this paradigm demands significant triangulation which is one of its central caveats (Trochim, Donnelly and Arora, 2016). This is not possible to achieve with small numbers of subjects and when a single method of data collection is employed. For these reasons, it was decided that this paradigm was not the most favourable in which to conduct a case study of this nature.

The critical theory paradigm was quickly eliminated as an appropriate choice for several reasons. This research was not long-term, ethnographic in nature nor did it demand an “*in-depth and intensive historical and structural analysis*” (Reed, 2005, p. 1639) of an organisational process or construct (Perry, Riege and Brown, 1999), either is it a study of a social institution (Fay, 1987; Morrow and Brown, 1994). There is simply no requirement,





necessity or positive outcomes for uncovering painstaking detail of the teamworking history of Company 'A', besides the fact that the ability of subjects to accurately reconstruct events that happened some time ago is severely questionable and not relevant to the results required from this study. Furthermore, the researcher also strongly believes that none of the subjects have any constraints placed on them by race, class and gender (Fay, 1987); therefore, they don't need an opportunity to try and escape such restrictions. Nor are the conclusions and recommendations needed to neither interpret or illuminate social action (Madison, 2005) or critique and transform a structure that is classed as constraining or exploiting subjects, nor engage in confrontation or conflict to enact change (Guba and Lincoln, 1994). Additionally, the fact that the researcher does not adopt the role of a "*transformative intellectual who has expanded consciousness and so, is able to confront ignorance and misapprehensions*" (Guba and Lincoln, 1994, p. 115) makes its dismissal firmly justified.

This left just the constructivist paradigm for further consideration. As the very nature of this research was exploratory in nature and involves investigating subject's opinion that were sourced from a relatively small population, this made it well suited to a qualitative methodology which is a key component of the constructivism paradigm. The research aims to explore complex viewpoints and responses from subjects that is related to what they believe inhibits the complex phenomena of teamworking, this paradigm strongly lends itself to this. Another correlation is due to the researcher's background of being employed in the actual research arena and has done so for a considerable length of time, as well as being a member of a team himself, he can be categorised as a "*passionate participant*" within the world where the investigation is conducted (Guba and Lincoln, 1994, p. 112), he also has a definite vested interest in the organisation maintaining success. The paradigm also recognises that constructivists acknowledge their backgrounds and experiences influence their interpretation of the collected data which is most appropriate to this study. Finally, the research subjects can be classified as experts in their community (Richardson, 2005), that is concentrated around local knowledge (Ramey and Grubb, 2009) because have been practicing teamworking for over two decades, hence have significant expertise in the matter. Due to these persuasions, the constructivism paradigm is considered the most suitable in which to conduct this research, now the paradigm has been chosen, a suitable research methodology can be appraised.



### **3.4 Methodological Considerations**

#### **3.4.1 Research Methodologies**

The constructivism paradigm has been chosen by a process of deduction as the most appropriate paradigmatic framework in which to undertake the research. Therefore, next it was necessary to review, select and justify a research methodology. Which is described as the “*strategy, plan of action, process or design lying behind the choice and use of methods and linking the choice and use of the methods to acquire the desired outcomes*” (Crotty, 1998, p. 3). It aims to describe, evaluate and justify the use of research methods to draw satisfactory conclusions (Wellington, 2000), primarily focusing on analysis of the methods used for gaining the data (Cohen, Manion and Morrison, 2013), attempting to enquire “*how can the inquirer go about finding out whatever they believe can be known*” (Guba and Lincoln (1994, p. 108).

When it comes to the choice of methodology the contemporary researcher had many methods to choose from and no single approach is intrinsically any better than another (Benbasat, Goldstein and Mead, 1987). The large and growing number of diverse research approaches in current practice can have an exacerbating effect on this problem (Mertler and Vannatta, 2001), and makes the process of elimination more demanding. A precedent which is set to get ever more complex as the number of methods continues to increase. The selection of paradigm has consequences for the research design, particularly around the methodological approach adopted. The most basic distinction is that different paradigms endorse either a quantitative and qualitative approach or sometimes a mixture of the two (Bryman, 2016). The constructivist paradigm is not usually affiliated with the quantitative or mixed methodological research approaches but is strongly associated with the qualitative research methodology which will now be considered in greater depth for suitability to this research.

#### **3.4.2 The Qualitative Research Methodology**

As discussed, the qualitative methodology is the most appropriate method for performing research in the critical theory and constructivist paradigms and to a lesser degree the post-positivist paradigm (Perry and Cavaye, 2004). It is differentiated from quantitative research in terms of its diversity, covering a wide range of epistemological positions and theoretical frameworks containing many distinct research methods that involves the



*“systematic study of ordinary activities in the settings in which they occur... the primary goal is to understand these activities and what they mean to those who engage in them”* (Bailey, 2007, p. 1). Therefore, it allows researchers to ask different questions to those posed by quantitative researchers (Hesse-Biber and Leavy, 2008).

Qualitative researchers are interested in understanding the meaning people have constructed, how they make sense of their world and the experiences they have within it (Merriam, 2009). They can provide *“a ‘deeper’ understanding of social phenomena than would be obtained from purely quantitative methods”* (Gill *et al.*, 2008). Furthermore, the method offers the advantage of being able to *“reach the parts that other quantitative methods can’t”* (Green and Thorogood, 2004; 2009, p. 45) which allows for *“the study of dynamic processes”* (Johnson and Onwuegbuzie, 2004, p. 20). This is particularly true in research that is looking at links between processes and outcomes (Shaw, 2003). Leedy and Ormrod (2005) noted there are a diverse variety of qualitative based data collection methods. They also indicated that such data collection methods share two commonalities, firstly they focus on phenomena that occur in the *“real world”*, and secondly, they involve *“studying these phenomena in all their complexity”* (Leedy and Ormrod, 2005, p. 147). Silverman (2010) reinforced the *“real world”* nature of qualitative research, noting that a major strength of the methodology is it allows researchers to study business practices in the environment in which they are being accomplished. This is supported by Dooley (1990, p. 293) who argued that *“qualitative research is social research based on non-quantitative observations made in the field and analysed in non-statistical ways”*. Donalek (2005, p. 124) offers perhaps the most explicit perspective stating, *“the purpose of all qualitative research is to understand some part of a chosen human experience”*, the meaning people have constructed, how they make sense of their world and the experiences they have within that world (Jackson, 1995; Merriam, 2009).

The perception is that qualitative research focuses on verbal descriptions, images and explanations of human behaviour instead of numbers. Denzin and Lincoln (1998, p. 8) suggest that numeric measurement might be totally disregarded when they characterised qualitative research as having *“an emphasis on processes and meanings that are not rigorously examined or measured [if measured at all] in terms of quantity, amount, intensity or frequency.”* The



data collection sources rely on either the spoken or written word and convey a sense of richness of information that cannot be extracted from statistics described by Patton (2002):

*“Qualitative data collection methods describe... They take us as readers into the time and place of the observation so that we know what it was like to have been there. They capture and communicate someone else’s experience of the world in his or her words. They tell a story.”*

Patton (2002, p. 47)

Regarding efficiency of data collection Ticehurst and Veal (2000) and Mack *et al.* (2005) argue the qualitative approach is far more suitable to extract a large amount of information from a small number of people or organisations as opposed to gathering a small amount of data from many people or organisations which is a significant feature of the quantitative method. Table 3.2 offers a simple summary of the characteristics of both qualitative research and researcher as recommended by Rossman and Rallis (1998).

***Table 3.2:*** A summary of the characteristics of typical qualitative research and the qualitative researcher.

<i>Qualitative Research</i>	<i>Qualitative Researcher</i>
• Takes place in the natural world.	• Views social phenomenon holistically.
• Uses multiple methods that are interactive and humanistic.	• Systematically reflects on who he/she is in the inquiry.
• Is emergent rather than tightly prefigured.	• Is sensitive to his/her personal biography and how it shapes the study.
• Is fundamentally interpretive.	• Uses complex reasoning that is multifaceted and iterative (the research questions and sub-questions and data collection method can be adjusted according to what is learned).

Source: Rossman and Rallis (1998, p. 9).

By combining the characteristics of the research methodology and the researcher together Rossman and Rallis (1998) have allowed a clear picture of what qualitative research entails to emerge. The associated terms include humanistic, interactive, interpretive, natural world, reflects, reasoning, sensitive and social, they convey a sense that qualitative research is firmly positioned in the real, social world which do not lend them to being easily measured. There is also a powerful sense that as researchers interact with the research subjects they must constantly pause to reflect on and re-calibrate their relationship with the group. It is also not compulsory for the researcher to impose a rigid data collection framework on the research subjects which allows for the generation of rich data that can be collected from a multitude of subject areas allowing researchers to be potentially more appreciative of other viewpoints (Hammersley, 2000). It also helps to unpick the differing perspectives within a community



(Choy, 2014). Due to the interpretation of collected data, researchers must be aware that their explanation is limited by their own individual experiences and the knowledge gained is significantly influenced (Alvesson and Skoldberg, 2009) by their own observations and conclusions (Choy, 2014). Subsequently, careful consideration must be given to the issues of sampling, the relationship between the researcher and the subjects, the methodologies and collated data, reflexivity, validity, reliability and ethical dilemmas (Carr, 1994).

### **3.4.3 Summary of the Qualitative Research Methodology**

A summary of the typical characteristics associated with the qualitative research methodology is provided in Table 3.3.

***Table 3.3: The typical characteristics of the qualitative research methodology.***

<b><i>Characteristic</i></b>	<b><i>Assessment Strategy Associated with the Case Study</i></b>
<b><i>Philosophical Assumptions</i></b>	<ul style="list-style-type: none"> <li>• Constructivist/Critical Theory knowledge claims.</li> <li>• Post-positivist to a lesser degree.</li> </ul>
<b><i>Strategies of Inquiry</i></b>	<ul style="list-style-type: none"> <li>• Seeks to explore phenomena.</li> <li>• Instruments use more flexible, iterative style of eliciting and categorising responses to questions.</li> <li>• Uses an emergent approach and text or image based, semi-structured data collection methods to collate non-numerical data such as observation, document trawls, focus groups or interviewing techniques.</li> </ul>
<b><i>Methods Employed to Extract Data</i></b>	<ul style="list-style-type: none"> <li>• Employs non-statistical based analysis procedures.</li> </ul>
<b><i>Research Practices Employed</i></b>	<ul style="list-style-type: none"> <li>• Positions researcher within the context of the inquiry.</li> <li>• Collects subject generated meanings.</li> <li>• Focuses on a single concept or phenomenon.</li> <li>• Brings personal values to the study.</li> <li>• Studies the context or setting of the subjects.</li> <li>• Validates the accuracy of findings.</li> <li>• Interprets the data.</li> <li>• Creates an agenda for change or reform.</li> <li>• Involves researcher collaborating with subjects.</li> </ul>
<b><i>Analytical Objectives</i></b>	<ul style="list-style-type: none"> <li>• To describe variation.</li> <li>• To describe and explain relationships or individual experiences.</li> <li>• To describe group norms.</li> </ul>
<b><i>Question Format</i></b>	<ul style="list-style-type: none"> <li>• Open-ended.</li> </ul>
<b><i>Data Format</i></b>	<ul style="list-style-type: none"> <li>• Utilises textual data (obtained from audiotapes, videotapes, and field notes).</li> </ul>
<b><i>Flexibility in Research Design</i></b>	<ul style="list-style-type: none"> <li>• Some aspects of the study design are flexible (e.g. the addition, exclusion, or wording of interview questions).</li> <li>• Subject responses affect how, and which questions researchers ask next.</li> <li>• Research design is iterative.</li> </ul>

Source: Mack et al. (2005, p. 3); Creswell (2014, p. 19) and Andrew, Pendersen and McEvoy (2011).



#### **3.4.4 Justification for the Choice of Appropriate Research Methodology**

Although the researcher takes the time to explain the qualitative methodology in greater depth than the other two methods in this thesis, a vigorous assessment was made of all three methodologies to ensure completeness. The selection is not a decision to be taken lightly, both Clark and Causer (1991) and Rallis and Rossman (2003) cautioned researchers should be pragmatic when choosing a research methodology and be aware of its feasibility, bearing in mind the amount of time and resource that are ultimately available.

During the elimination process it was quickly acknowledged that the quantitative methodology was not considered appropriate because it is not well suited to the constructivist paradigm. Additionally, it does not lend itself to being effective in an environment where a large amount of rich detailed data needs to be collected from a relatively small number of subjects. The final justification for dismissal was quantitative methods principally aim to answer the “*how many*” and “*how much*” type of questions combined with a proficiency for validating theory by conducting experiments and analysing the results numerically (Trochim, Donnelly and Arora, 2016) both of which the objectives of this research are not.

Likewise, the mixed methodological approach was also rejected because it has already been established that the quantitative methodology is not suitable for this research. Furthermore, there seems to be no clear advantages in adopting both a quantitative and qualitative methodological approach as well as the inherent need for triangulation when using such methods. This requires considerable time and resources which were limited in this study as the researcher was acting completely alone, this follows the previously stated advice from Clark and Causer (1991) and Rallis and Rossman (2003).

This left the qualitative methodology, which has the principal aim of determining not only the “*what*” and “*how*” questions but also reveals the “*why*” (King, 2002) to progress our knowledge in the chosen subject. The method seeks to arrive at a theory that explains the behaviour observed, therefore it is said to be inductive in approach (Trochim, Donnelly and Arora, 2016). Furthermore, it is found to be especially suited for research studies that involve data collection in the form of detailed descriptions relating to a complex phenomenon such as teamworking. Another benefit is the method allows for a large amount of data to be collected from a relatively small number of subjects (Bryman, 2016). Therefore, it provides “*a full and*



*rounded understanding of the organisational experiences and situations of a few individuals, [however unrepresentative they may be], it is of more value than a limited understanding of a large, representative group”* (Ticehurst and Veal, 2000, p. 21). Its use is found to be most appropriate when little is known about the research subject or when understanding of meaning, motives, reasons and patterns are required. These often go unnoticed when using a standardised quantitative approach (Creswell, 2014). The results achieved are not only used to aid the generation of theory but also provides possible recommendations for further research. This offers the potential for an even greater understanding of matter under investigation, because real-life situations are looked at in a subjective way to better explain what’s driving the behaviour being witnessed (Walsh and Downe, 2005).

This process was undertaken cautiously and resulted in the fair dismissal of two of the three methodological approaches. As this study was undertaken in the “*in the real world*” within the constructivist paradigm, which is predominantly qualitative by nature, it was a well-grounded decision to embrace the use of a qualitative methodology to accomplish it. Following the selection of a suitable research methodology an assessment was made of the prominent qualitative data collection methods and an appropriate technique chosen.

### **3.5 Qualitative Research Techniques**

#### **3.5.1 Qualitative Data Collection Methods**

The research methodologies were reviewed, and it was concluded that a qualitative method was the most appropriate. The next choice was the selection of an appropriate data collection method that is within the qualitative domain of selectable methods. Although there are many valid qualitative data collection methods the following are the most common sources according to Marshall and Rossman (2006); Locke, Silverman and Spirduso, (2010) and Creswell (2014):

- 1) Observations.***
- 2) Documentation trawls.***
- 3) Focus groups.***
- 4) Interviews.***

Observations consist of fieldwork descriptions of any observable human activity or experience, with data consisting of field notes which contain detailed descriptions and






comprehensive (Patton, 2002). During documentation trawl's the researcher will review several data sources and draw conclusions from what they have found (Creswell, 2014). Focus groups provide insights into how people think and provide a deeper understanding of phenomena being studied (Nagle and Williams, 2013); the collected data contains dialogue that requires a process of transcription. Interviews typically consist of questions that elicit detailed responses relating to people's experiences, perceptions and feelings, data comprises of verbatim quotations (Patton, 2002) again this is subject to transcription. It is easy to observe that all four techniques emphasise the non-statistical nature of the qualitative methodology.




### **3.5.2 Summary of the Available Qualitative Data Collection Methods**

Each of the four data collection methods have a specific set of characteristics, a summary of these is provided in Table 3.4.

**Table 3.4:** A summary of the specific methods, advantages and disadvantages of the common qualitative data collection methods.

<i>Data Collection Method</i>	<i>Specific Methods</i>	<i>Advantages</i>	<i>Disadvantages</i>
<b>Observations</b> 	<ul style="list-style-type: none"> <li>• Subject observation.</li> <li>• Non-subject observation.</li> <li>• Case study.</li> <li>• Controlled observations.</li> <li>• Longitudinal research or panel studies.</li> <li>• Direct observation.</li> </ul>	<ul style="list-style-type: none"> <li>• Produces copious quantities of relevant data.</li> <li>• Relatively inexpensive.</li> <li>• All subjects are potential subjects and often readily available.</li> <li>• The technique can be stopped and started again repetitively if required.</li> <li>• Observations can be recorded at the time they occur eliminating bias.</li> <li>• Very direct method for collecting data or information considered the best for the studying human behaviour.</li> <li>• Data collected is considered very accurate and very reliable.</li> <li>• Can be undertaken for a long duration if required.</li> </ul>	<ul style="list-style-type: none"> <li>• Past events cannot be catered for.</li> <li>• Susceptible to researcher bias.</li> <li>• Considerable time can be required to witness a or spontaneous event.</li> <li>• The presence of an observer gives the subjects an addition that is normally absent potentially affecting their behaviour.</li> <li>• Extensive training is required.</li> <li>• Opinion and attitude cannot be observed.</li> <li>• Sampling cannot be undertaken.</li> <li>• Can be time consuming, expensive and subject to constraints that effect accurate data collection and require special instruments or tools adding to expense.</li> <li>• Not considered to be an effective method for collecting information from individuals, as it does not increase our knowledge of why people behave the way they do.</li> </ul>
<b>Documentation Trawls</b>	<ul style="list-style-type: none"> <li>• Historical.</li> <li>• Governmental.</li> <li>• Public Records.</li> <li>• Personal documents.</li> <li>• Audio-visual media.</li> </ul>	<ul style="list-style-type: none"> <li>• Unbiased.</li> <li>• Fast data collection of data.</li> <li>• Often covers significant periods of time and allows collection of a large amount of data in an unobtrusive manner.</li> </ul>	<ul style="list-style-type: none"> <li>• Researchers are solely dependable on the documents available they may be disorganised, missing, out-of-date, inapplicable or partially complete in some cases there is no possibility of replacement.</li> <li>• Locating suitable documents can be challenging.</li> </ul>



	<ul style="list-style-type: none"> <li>• Literature review.</li> <li>• Meta-analysis.</li> <li>• Diaries.</li> <li>• Content analysis.</li> <li>• Secondary data.</li> <li>• Narrative inquiry.</li> <li>• Life history.</li> </ul>	<ul style="list-style-type: none"> <li>• Lends itself well to comparisons or trend analysis and comparisons of larger populations.</li> <li>• Low-cost.</li> <li>• Supports effective sampling.</li> </ul>	<ul style="list-style-type: none"> <li>• No one can be sure of the conditions under which the documentation was originally collected.</li> <li>• There are no assurances of the accuracy or authenticity of the documentation.</li> <li>• Can be a time-consuming process.</li> <li>• Access to sensitive documentation may be denied.</li> <li>• Not considered to be an effective method for collecting information from individuals, as it does not increase our knowledge of why people behave the way they do.</li> </ul>
<p><b>Focus Groups</b></p> 	<ul style="list-style-type: none"> <li>• Closed group discussion.</li> <li>• Open group discussion.</li> <li>• Focussed discussion.</li> <li>• Group in-depth discussion.</li> </ul>	<ul style="list-style-type: none"> <li>• Provides effective group interaction.</li> <li>• Relatively fast method of collecting substantial amounts of data.</li> <li>• Low-cost.</li> <li>• Offers flexibility.</li> <li>• Offers high face-to-face validity.</li> <li>• Groups can be assembled relatively quickly and at short notice.</li> <li>• Collected data use subjects' own words.</li> <li>• Researchers interact directly with subjects' which allows probing, clarification and follow-up and them to define what is important.</li> <li>• Can gain information from non-verbal responses to supplement or even contradict verbal responses.</li> </ul>	<ul style="list-style-type: none"> <li>• Extensive training is required.</li> <li>• Susceptible to researcher bias.</li> <li>• Large groups can be difficult to manage which can affect the quality of the data collection.</li> <li>• Can produce relatively chaotic data making analysis difficult and findings hard to summarise.</li> <li>• Can be hard to observe important individual nuances.</li> <li>• Can be prone to hierarchical disruption, when the presence of a dominant or opinionated member can result in the more reserved being hesitant to speak.</li> <li>• Sampling cannot be undertaken easily.</li> <li>• Difficult to collect sensitive information.</li> <li>• Not considered to be an effective method for collecting information from individuals, as it does not increase our knowledge of why people behave the way they do.</li> </ul>
<p><b>Interviews</b></p> 	<ul style="list-style-type: none"> <li>• Face-to-face interviews.</li> <li>• Key informant interviews.</li> <li>• Telephone interviews.</li> <li>• Computer aided interviews.</li> </ul>	<ul style="list-style-type: none"> <li>• All data is usable.</li> <li>• A high proportion of responses can be obtained.</li> <li>• Offers flexibility.</li> <li>• Offers high face-to-face validity.</li> <li>• Collected data use subjects' own words.</li> <li>• Researchers interact directly with subjects usually yields rich data, new insights and deep exploration of topics.</li> <li>• Allows probing, clarification and follow-up.</li> </ul>	<ul style="list-style-type: none"> <li>• Extensive training is required.</li> <li>• Susceptible to researcher bias.</li> <li>• Large volume of data may be difficult to transcribe and analyse and finding hard to summarise.</li> <li>• Can be a time-consuming process, expensive and subject to personal or organisational constraints that effect accurate data collection.</li> <li>• Subject may distort information through recall error, selective perceptions, desire to please researcher.</li> <li>• Flexibility can result in inconsistencies across interviews.</li> </ul>



		<ul style="list-style-type: none"><li>• Can gain information from non-verbal responses to supplement or even contradict verbal responses.</li><li>• Allow researcher to explain or help clarify questions, increasing the likelihood of useful responses.</li><li>• Data uses subjects' own words and can obtain deeper levels of meaning, make important connections and identify subtle nuances.</li><li>• Supports effective sampling.</li><li>• An effective method for collecting information from individuals.</li></ul>	
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Source: Patten (2002); Mack et al. (2005); Marshall and Rossman (2006); Zucker (2009); Nagle and Williams (2013); Creswell (2014); and Fox and Alldred (2017).

### **3.5.3 Justification for the Choice of Appropriate Quantitative Data Collection Method**

After performing a review of the various qualitative data collection methods, it was quickly decided that the interview technique was the most appropriate instrument that would allow the researcher to gather rich and meaningful data on matters that cannot be directly observed (Arksey and Knight, 1999; Punch, 2005; Sauro, 2015). By utilising this method, the researcher can get “*physically and psychologically closer to the phenomena through in-depth interviews*” (Perry, Riege and Brown, 1999, p. 20; Punch, 2005). Which aids the generation of “*empirical data from the social world by asking people to talk about themselves*” (Holstein and Gubrium, 2003, p. 3) and is particularly well suited to research situations where there is a requirement for in-depth inquiries that demand complex responses (Shuy, 2003).

Interviews are regarded as highly efficient and the most appropriate method for worthwhile data extraction when “*little is already known about the study phenomenon or where detailed insights are required from individual subjects*” (Gill et al., 2008, p. 294). With the information collected offering a solid base of fact from which “*conclusions can be drawn, interpretations made and on which further research can be based*” (Arthur, 1999, p. 155), the method is also considered to be effective generating “*large amounts of data quickly*” (Marshall and Rossman, 2006, p. 108). From a subject’s standpoint, it is popular because it can provide benefits including, release, self-acknowledgment, sense of purpose, self-awareness, empowerment, healing and provide a voice for the disenfranchised (Hutchinson, Wilson and Wilson, 1994). It also allows “*us to enter into the other person’s perspective*”



(Patton, 2002, p. 341) and is “*particularly appropriate for exploring sensitive topics, where subjects may not want to talk about such issues in a group environment*” (Gill *et al.*, 2008, p. 294). Implying that the more comfortable subjects feel the more willing they are to reveal their true feelings on specific issues (Rubin and Rubin, 2005). The technique also provides an effective framework, in which high standards and sound practices are achieved, recorded, challenged and reinforced (Oakley, 1998). It is due to these many positive aspects that interviewing has become one of the most widely employed methods in research (Edwards and Holland, 2013; Creswell, 2014), with the broad array of practical strengths aiding its popularity (Punch, 2005).

#### **3.5.4 Type of Interviews Available to Researchers**

A further choice that had to be made at this stage was the type of interview method used, which are said to range through a broad continuum (May, 1997; Bryman, 2016). Patton (2002), Leedy and Ormrod (2005) and Gill *et al.* (2008) identified three types, they include:

- 1) *Unstructured interviews.*
- 2) *Semi-structured interviews.*
- 3) *Structured interviews.*

An overview of each method will now be given, prior to a specific method being justified for use in this case study.

#### **3.5.5 Unstructured Interviewing**

An unstructured interview is totally free of any structure as the name implies, being generally in-depth, they are typically qualitative in nature (Leedy and Ormrod, 2001, Edwards and Holland, 2013). Generally, they are used when conducting long-term research because they allow subjects to express their opinion at their own pace with minimal control available, although unfortunately they lack the ability to further interrogate any thought provoking responses (Corbyn and Morse, 2003). They typically take place in addition to the collection of additional observational or other supporting data (Adams *et al.*, 2002). They have been described as a conversation more than an interview and are always thought to be a “*controlled*” and possibly even biased towards the interests of the interviewer (Gray, 2009). They are flexible in structure, but they lack the focus that is present in semi-structured or



structured interviews. Other issues include they can also be very time consuming, difficult to manage and to participate in due to the absence of predetermined questions and little guidance on what to talk about (Gill *et al.*, 2008).

### **3.5.6 Semi-Structured Interviewing**

Semi-structured interviews are in-depth where subjects answer open-ended questions in a quick manner (Patton, 2002), it is a common method that is widely employed (Jamshed, 2014). They are often directed by means of an interview guide which is basically several questions or topics that the researcher wants to explore, this helps to keep the interview focused but also allows some flexibility (DiCicco-Bloom and Crabtree, 2006). It is this ability to offer suppleness that allows the technique to contain both structured and unstructured elements when desired, therefore they are deemed appropriate for use in both the quantitative and qualitative research methodologies (Leedy and Ormrod, 2001). They are however principally associated with the qualitative end of the methodological scale (Edwards and Holland, 2013).

The method gives the researcher the opportunity not only to probe for viewpoints and opinions but also offers the further aid of divergence which can be used to pursue an idea or response in more detail (Britten, 1995), which allows for the exploration of “*new paths which were not initially considered*” (Gray, 2004, p. 217). This type of interview is described as “*freer than when conducting a structured interview*” (Kajornboon, 2016, p. 75), but has the advantage that it allows key themes and questions to be formulated in advance and therefore offers the researcher a “*sense of order from which to draw questions from unplanned encounters*” (David and Sutton, 2004, p. 87). Due to the depth of information that can be collected they are often used alone as the sole source of data collection (Adams *et al.*, 2002).

### **3.5.7 Structured Interviewing**

Structured interviews consist either of a questionnaire (Leedy and Ormrod, 2001; Gill *et al.*, 2008) or a survey (Edwards and Holland, 2013). Whatever of the two methods are employed they are always read by the interviewer and are therefore by their very nature extremely focused on specific items of interest. They are predominantly used in quantitative research studies (Leedy and Ormrod, 2001; Gill *et al.*, 2008; Edwards and Holland, 2013) and are considered to only allow subjects to give limited responses so they are of little use if “*depth*” is required (Gill *et al.*, 2008), further probing can also be a problem area (Corbetta,



2003) as there is “little or no variation and with no scope for follow-up questions to responses that warrant further elaboration” (Gill *et al.*, 2008, p. 292). The exercise can be laborious and repetitive as “all subjects are asked the same questions with the same wording and in the same sequence” (Corbetta, 2003, p. 269). Adding to this lacklustre approach Gray (2009, p. 215) argues to ensure validity and reliability “it would be beneficial if each question could be read out in the same tone of voice so that the subjects would not be influenced by the tone of the interviewer”. This aids the goal of the interview which is to ensure that subjects replies can be standardised or “aggregated” as much as possible due to its quantitative bias (Bryman, 2016, p. 107).

### **3.5.8 Summary of the Three Types of Qualitative Interview Methods Available**

A summary of the three interview methods available is provided in Table 3.5.

**Table 3.5:** A summary of the main characteristics of the three types of qualitative interviewing techniques.

<b>Type of Interview / Applicable Attributes</b>	<b>Unstructured Interviews</b> “An Informal Conversational Interview”	<b>Semi-Structured Interviews</b> “A Semi-Formal Interview Supported by an Interview Guide”	<b>Structure Interviews</b> “A Formal Standardised Closed Interview”
<b>Appropriate Characteristics</b>	<ul style="list-style-type: none"> <li>• Questions emerge from the immediate context and are asked in the natural course of things.</li> <li>• There is no pre-determination of question topics or wording.</li> <li>• Utilises open-ended questions.</li> </ul>	<ul style="list-style-type: none"> <li>• Topics and issues to be covered are specified in advance, in outline form.</li> <li>• Interviewer decides sequence and wording of questions during interview.</li> <li>• Utilises open-ended questions.</li> </ul>	<ul style="list-style-type: none"> <li>• The exact wording and sequence of questions are determined in advance.</li> <li>• All subjects are asked the same basic questions in the same order.</li> <li>• Utilises closed questions.</li> </ul>
<b>Strengths</b>	<ul style="list-style-type: none"> <li>• Increases the salience and relevance of questions.</li> <li>• Interviews are built on and emerge from observations.</li> <li>• The interview can be matched to individuals and circumstances.</li> <li>• Allows further exploration of a matter if required.</li> </ul>	<ul style="list-style-type: none"> <li>• The outline increases the comprehensiveness of the data and makes data collection somewhat systematic for each subject.</li> <li>• Logical gaps in data can be anticipated and closed</li> <li>• Interviews remain conversational and situational.</li> <li>• Allows further exploration of a matter.</li> </ul>	<ul style="list-style-type: none"> <li>• Subjects answer the same questions, thus increasing comparability of responses.</li> <li>• Data is collected in a standard form for each person on the topics addressed during the interview.</li> <li>• Reduction of interviewer influence and bias when several interviewers are used.</li> <li>• Facilitates organisation of and analysis of collected data.</li> <li>• Permits evaluation as users can see and review the instruments used during the analysis.</li> </ul>





<b>Weaknesses</b>	<ul style="list-style-type: none"><li>• Different information collected from different people with different questions potentially affects validity and reliability.</li><li>• Less systematic and comprehensive if certain questions do not arise naturally.</li><li>• Data organisation and analysis can be quite difficult.</li></ul>	<ul style="list-style-type: none"><li>• Important and salient topics may be inadvertently omitted.</li><li>• Interviewer flexibility in sequencing and wording questions can result in substantially different responses from different perspectives</li><li>• Hard to compare responses which can affect effective analysis of data.</li></ul>	<ul style="list-style-type: none"><li>• Little flexibility in relating the interview to individuals and circumstances.</li><li>• Standardised wording of questions may constrain and limit naturalness and relevance of questions and answers.</li><li>• Doesn't allow for further exploration of a matter.</li></ul>
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Source: Patton (2002, p. 349).

### **3.5.9 Justification for the Choice of Appropriate Interview Method**

When choosing an interview method, it quickly become apparent during the process of elimination that unstructured interviews were not considered to be suitable because they are well-known for lacking focus, are associated with poor time constraints and the information gathered is far too random and unfocused. A further reason was the study was not planned to be long-term, therefore this method was easily dismissed. Likewise, structured interviews were not considered to be suitable predominantly because the study was not numerically based or quantitative in nature neither was the technique found to be compatible with the constructivist paradigmatic underpinnings of this study. Further reasons included the method was far too closed and restrictive in character, therefore it did not allow for the depth of opinion required.

This left just the semi-structure interview technique which was deemed suitable, because it is complementary to a qualitative based research methodology which in turn is suited to the constructivist paradigm. Other reasons included semi-structured interviewing is usually practiced as the sole source of data collection mitigating the need for it to be combined with any other research methods and alleviating the requirement for triangulation. This collaborated with the desire to support organisational sensitivities around prolonged periods of contact with the subjects and addressed concerns about the studies effective utilisation of limited resources. This method is also known for its ability to rapid collect focused data from a relatively small group which is an additional benefit. Further justification can be offered by enlisting the support of Mason (2002, p. 62) who argues the semi-structured interview technique has certain core features which after consideration was also been found to be complimentary to this research:

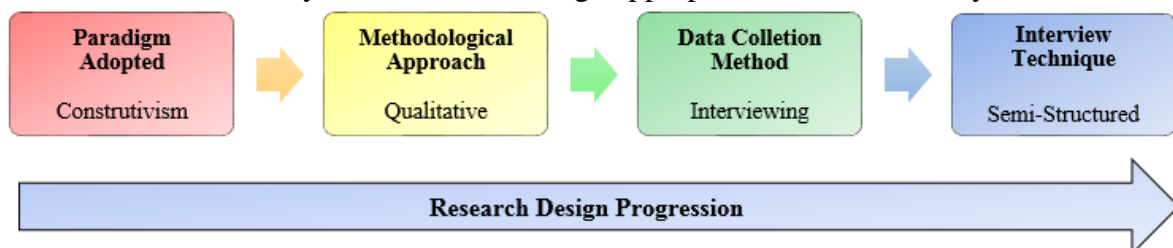




- 1) *The interactional exchange of dialogue is high between two or more subjects allowing for deep and meaningful data to be realised.*
- 2) *The method is suitable for a thematic approach where the researcher has topics, themes or issues they wish to discuss further.*
- 3) *The method has a fluid and flexible structure allowing for other points of interest to be discussed and probing to be undertaken if a theme of interest is raised that does not form part of the initial questions.*
- 4) *The teamworking method offers a perspective that regards knowledge as situated and contextual. This requires the researcher to ensure that relevant contexts are brought into focus so that knowledge can be produced.*
- 5) *The meanings and understanding of the unknown is created by the interaction of two parties which leads to the effective construction of knowledge.*

### **3.5.10 Summary of the Research Design**

From the discussions in this chapter it is clear many choices must be made during the research design process to ensure a suitable and stable research strategy is formulated. Figure 3.2 illustrates a summary of the research design appropriate to this case study.



**Figure 3.2:** *A summary of the research design employed during this study. The paradigmatic, methodological, data collection method and technique chosen are clearly outlined.*

*Source: Developed for this Research (2018).*

Now the choice of paradigm, methodology and data collection technique have been firmly justified the design and accomplishment proposals for the semi-structure interviews will be outlined. Matters such as sample population, data saturation, pilot studies, the interview format and access to the research subjects must be considered next.

## **3.6 The Design and Accomplishment of the Semi-Structured Interviews**

### **3.6.1 Interview Sample Population**

A sample in a research context is defined by Bryman and Bell (2007, p. 182) as the “fragment or section of the population that is selected for the research process.” During this phase, a question frequently asked is “how many interviews is enough?” (Baker and Edwards, 2012; National Centre for Research Methods, 2016). This age-old question has been and



indeed still is fiercely debated by many in academic circles. Estimates vary wildly between researchers, academics and institutions therefore no credible guidelines have emerged. Creswell (2014) for example suggests a sample of twenty for interview, Morse (1995) argues the approach can be variable, advocating thirty to fifty as appropriate. Bertaux (1981) and Guest, Bunce and Johnson (2006) believe the ideal number should be fifteen. Charmaz (2006, p. 114) offers a little clarity suggesting “*twenty-five subjects are adequate for smaller projects*”, while Ritchi, Lewis and Elam (2003, p. 84) claim that samples should “*lie under fifty*”, failing to indicate a minimum but clearly a maximum. Green and Thorogood (2004; 2009, p. 120) offer a more comprehensive argument, stating “*the experience of most qualitative researchers is that in interview studies, little that is new comes out of transcripts after you have interviewed twenty or so people*”; giving yet another indication but failing to offer a definitive number.

After careful consideration of the literature and the organisational structure it was decided that twenty-two people was a sufficient number for interview purposes. This is supported by the fact that Company ‘A’ is divided into approximately eleven major production areas, therefore, it seemed practical to choose a total number of two subjects from each area which gives the total number selected. A higher number was considered but later ruled out as such actions could have led to a point where data saturation occurred, combined with the fact that the researcher had to be mindful that the study data collection objectives were achievable within a viable timeframe using the available resources. Additional considerations included maintaining organisational good will and the company requirement for the exercise to have no impact on production. The twenty-two interviews were accomplished among a random population of qualified Aircraft Engineers, male and female, that practice teamwork daily. The process followed the four-step approach proposed by Lacobucci and Churchill (2015, p. 283):

- 1) Define the target sample of subjects required.***
- 2) Identify the sample subject’s boundaries.***
- 3) Select the process for choosing the subjects.***
- 4) Determine the number of subjects required.***



The number chosen also helps to address any concerns surrounding an imbalance of opinion or loading of the data from a product line, eliminating any potential for local bias, which could have a negative effect on the neutrality of the findings.

### **3.6.2 Data Saturation**

Researchers involved in qualitative studies can come up against the dilemma of data saturation. This is the point where the amount of data collected is simply too large and cumbersome to handle and starts to lose meaning. It is also the stage when enough information has been collected that it is possible to replicate the study (O'Reilly and Parker, 2012; Walker, 2012) aiding reliability.

There is a wide array of opinion of when data saturation occurs, some believe it can be encountered at comparatively low levels (Romney, Weller and Batchelder, 1986; Griffin and Hauser, 1993; Guest, Bunce and Johnson, 2006). Corbin and Strauss (1999, p. 149) for instance claim it can be low as “*five or six one-hour interviews*”; while Latham (2015) advises between twelve and fifteen. Creswell (2014) suggests data saturation is reached between twenty to sixty interviews, while Bruce (2007) found that there is no magic number. Francis *et al.* (2010, p. 1230) didn't forecast a definitive number but found that saturation occurs when “*no new themes, findings, concepts or problems are evident in the data.*”

During this case study the researcher did indeed reach the point of data saturation. This was realised towards the end of the interview data collection phase. It was clear because much of the dialogue being shared by the subjects at this point had already been discussed previously. Gerson and Horowitz (2002) and Bryman (2016) offer support for this assumption claiming that researchers will recognise the saturation point is reached where they are conducting interviews that are no longer revealing fresh insights into the matter under investigation. This also offers further justification for the total number of interview being capped at twenty-two during this case study.

Reaching saturation is an important milestone because it is claimed to be “*the key to excellent qualitative work*” (Morse, 1995, p. 147). Failure to reach it has an impact on the quality of the research conducted and hampers content validity (Bowen, 2008; Kerr, Nixon and Wild, 2010), it also ensures the data is vigorous enough to facilitate a defensible,



worthwhile and rugged piece of research (Bowen 2008). Although it should be approached with caution as it is claimed when data collection reaches the stage of diminished returns and interviews thereafter add little value (Strauss and Corbin 1999; Mason, 2010; Saunders *et al.*, 2017) which can lead to claims of wasted time and effort which has implications for ethics (Francis *et al.*, 2010).

### **3.6.3 Choosing the Research Subjects**

Fortunately, during the recruitment of interview subjects there was a healthy population of participants that came forward that were willing to contribute to this case study. They represented a good cross-section of all the major production areas at Company 'A'. In fact so many individuals come forward and offered support that "*oversubscription*" was experienced as approximately three-hundred-and-fifty people responded to the request to assist in the research. It was felt that this was a positive dilemma to have, with the polar-opposite of low participant being particularly undesirable, with its net effect of stopping the research in its tracks.

Due to the "*oversubscription*" to ensure the equality and objectivity the selection of subjects followed a totally random approach, thereby mitigating any claims of prejudice or favour. The selection process employed the age old yet simple and just method of putting names in a hat ensuring total impartiality. Consequentially, the first names drawn out of the hat on a section-by-section basis were offered the chance to be a contributor. To further maintain universal equality and preserve objectivity the execution of the "*draw*" was adjudicated by two of the researcher's colleagues, thus ensuring total neutrality. This random approach prevented any possibly of allegations of unfairness from disgruntled employees who felt particularly strongly that they did not have the opportunity to participate.

### **3.6.4 Pilot Studies**

Pilot studies are small scale feasibility studies completed prior to the main study (Polit, Beck and Hungler, 2001), they are pre-tests of research instruments or procedures (Baker, 1994), basically a dummy run (Ross-McGill *et al.*, 2000; Burrows *et al.*, 2001), considered to be an essential stage of a research project (Hassan, Schattner and Mazza, 2010). Although they do not necessarily guarantee success in the main study they greatly increase the likelihood (Simons, 2011) as "*only when data is evaluated that any gaps in a research design*



*begin to show up*” (Sampson, 2004, p. 399). Pilots can identify potential problem areas and deficiencies prior to implementation of the full study (Lancaster, Dodd and Williamson, 2004; Kraemer *et al.*, 2006), they are a risk mitigation strategy that “*tests the efficacy of a research instrument... help reduce uncertainty... and suggesting what will work or not*” (Turner, 2005, p. 5). The environment in which pilots are conducted is also important, De Vos (2002) advises that they should take place in a setting that is convenient for the researcher and resembles the one used for the actual study.

The researcher opted to perform pilot testing of the interview guide prior to launching the main data collection exercise with four volunteers. This number followed the higher end of Baker’s (1994) recommendation of 10-20% of the final sample population that should be used for such purposes. To ensure that the pilot was as close as possible to the actual data collection exercise the venue chosen was the same used for proper interviews following De Vos (2002) previously stated advice. The pilot study did highlight minor changes to the format of the interview guide which was a relatively straightforward exercise to accomplish. The changes were discussed with the pilot subjects prior and post modification, once it was agreed that they were suitable they were made and re-verified with the pilot community who concurred that the modified guide was an improvement on the first draft.

### **3.6.5 The Interview Format**

Conducting effective interviews has its challenges, Oppenheim and Oppenheim (1992) highlighted that for researchers to effectively use the method they must conduct the interview using a “*third ear*”; they must pick up on any gaps in the subject’s answers and notice such things as hesitations, pauses or detect any uneasiness and apprehension prior to answering questions and develop a sense of “*attitude measurement*”. Henderson, Pallatsek and Rayner (1987) embraced using a systematic process with structured procedures that will increase the likelihood of effective attitude measurement taking place. Further recommendations by Oppenheim and Oppenheim (1992) include using a tactic of gentle probing when needed to determine the meaning behind such pauses etc. It is also imperative that during these times the environment is very comfortable, which will help further relax the subject and make them more forthcoming and revealing about their true feelings.



Regarding the actual execution of the interview process there is a lot of direction available in the literature. Creswell (2014) produced the following guidelines to assist investigators in conducting effective interviews, these were respected during this case study.

- 1) Determine the most appropriate method of interview to be used.*
- 2) Design an appropriate 'interview guide'.*
- 3) Invite potential contributors to participate.*
- 4) Determine a time and location in which to conduct the interviews.*
- 5) Utilise suitable recording procedures.*
- 6) Obtain written informed consent from the subject.*
- 7) Explain the purpose of the interview clearly to the subject prior to undertaking any further discussions.*
- 8) Outline the safeguards that have been put into place to secure the data and the subject's identity.*
- 9) Offer the subject the option to pull out of the study at this point and or any other point going forward if they so wish.*
- 10) During the interview ensure the 'interview guide' is adhered too so the discussion is kept relevant to the subject matter under investigation.*
- 11) Ensure that the interview is concluded within a reasonable timeframe, although the interviewer must be careful not to rush or influence any of the exchange as this can have consequences for validity and reliability.*

Throughout the interview process the aim of the questions was to expose the subject's true feelings, therefore repetitive themes were probed to investigate them further (DiCicco-Bloom and Crabtree, 2006). Each subject was interviewed once only, and they were conducted face-to-face. This was considered important and follows advice by Farr and Timm (1994) who suggest the following advantages are present when undertaking face-to-face interviewing as opposed to other methods where there is no direct contact between the interviewer and the subject:

- 1) It is an effective approach for obtaining accurate data on sensitive issues.*
- 2) There is a reduced incidence of premature termination of interviews.*
- 3) The questioning is usually more thorough.*
- 4) A stronger rapport exists between the interviewer and subject.*
- 5) The richness of the data is enhanced by the interviewer's ability to seek clarification through probing questions and to observe non-verbal behaviours.*



During the interview, the questions were asked in the same order to allow a healthy but standard cross-section of opinion to be discussed and make sure all areas of interest that were uncovered by the literature review were considered. The tactic of using semi-structured interviews did leave room for subjects to discuss other issues that they felt were relevant that could complementary this research, this approach is supported by Douglas (1985), Jones (1985) and Easterby-Smith, Thorpe and Jackson (2008).

### **3.6.6 Access to the Research Subjects**

Access was not a problem as both the researcher and the subjects are employed in the same facility and the research was fully supported by the management and production area teams. During the actual data collection exercise contact to all subjects was relatively straightforward albeit under the host organisations cautionary condition that such activity did not have any impact on production. This caveat was respected sincerely throughout the study to avoid any difficulties arising. The data analysis phase is the next matter discussed.

## **3.7 Qualitative Data Analysis Procedure**

### **3.7.1 Computer Assisted Qualitative Data Analysis Software**

Most researchers are aware of data analysis packages known as Computer Assisted Qualitative Data Analysis Software (CAQDAS). They basically manage collected data and offers support for researchers during their analysis efforts. NVivo is currently one of the most popular qualitative data management programs (Zamawe, 2015) that professes to make the research process “*highly mechanised... the qualitative equivalent of number crunching in quantitative research*” (Gabriel, 2015, p. 152).

Although such software is acknowledged as being very useful, in this specific investigation the researcher declined the opportunity to use it. This said the process of assessing the viability of using data analysis software was open-minded, vigorous, independently and thoroughly executed. The decision to dismiss its use on this occasion is firmly justified as the negatives aspects far outweighed the perceived benefits, there are several reasons why.





This case study took place in the real world using the semi-structured interview technique. The collected data was very rich and extremely detailed, it was strongly believed that the researcher needed to be as close as possible to the data interpretation to achieve the best results the case study could offer.

Furthermore, part of the data collection process was to carefully deliberate the facial expressions, subtle nuances, tone of the conversation, how the stories were told and the posture, attitude and manner of the interviewee. These magnitude of these actions and emotions were recorded by the researcher using extensive field notes, which were subsequently cross-referenced with the transcribed data during analysis to determine the gravity and context of the spoken word. The researcher considers the use of analysis software would have resulted in the loss of some sensitive parts of the data as actions and emotions cannot be inputted into a computer program. It would also neutralise the significant effort made during data collection of writing up comprehensive field notes that detailed every aspect of the interview process and have an obvious influence on the accurate interpretation of collected data and the subsequent generation of associate findings.

It is also noteworthy that during data analysis the researcher listened to the transcripts many times over-and-over. This exercise was repeated to a point where there was clear familiarity with every “*micro-variation in timbre, tempo, accent and dynamics*” (Gabriel, 2018, p. 1). This resulted in the researcher being extremely well-connected to all the recorded discussions. The researcher understands that software is unable to utilise familiarity resulting in the possibility that some specific and important points would of possibly be missed. It is well known that automation has also been found to shade meanings which leads to a loss of interpretation (Rodik and Primorac, 2015) and it can fail to pick up some of the more detailed aspects of a data set (Gabriel, 2015, p. 153).

The use of analysis software has also been found to have implications for the competency of researchers. It is claimed it stifles the requirement for them to develop an eye for significant detail, present or missing (Schreven, 2015) effectively de-skilling them. As this was the researchers first standalone investigation it was desirable to learn the skills of manually analysing data to ensure the maximum possibly competency was attained in the research craft.



Other influential factors that aided the decision not to pursue automated methods of analysis include claims there can be an erosion of the quality of the finished product. It can lack style, elegance or beauty (Grey and Sinclair, 2006) and appear “*increasingly formulaic and dull*” (Grey, 2010, p. 691) because it has been “*stripped of its originality*” (Gabrial, 2015). A further point considered was analysis software can over-complicate the process of categorisation, this makes the results unmanageable because there are simply too many themes, this is termed a “*coding fetish*” (Tagg, 2010). This can leave researchers with findings that lack detail and intricacy with no empirical diversity, imagination, creativity and richness present (Alvesson and Gabriel, 2013). All the factors discussed can devalue what is fundamentally a rigorous piece of research. Therefore, for this case study the chosen method of analysis used was a traditional non-automated method of analysis, namely thematic.

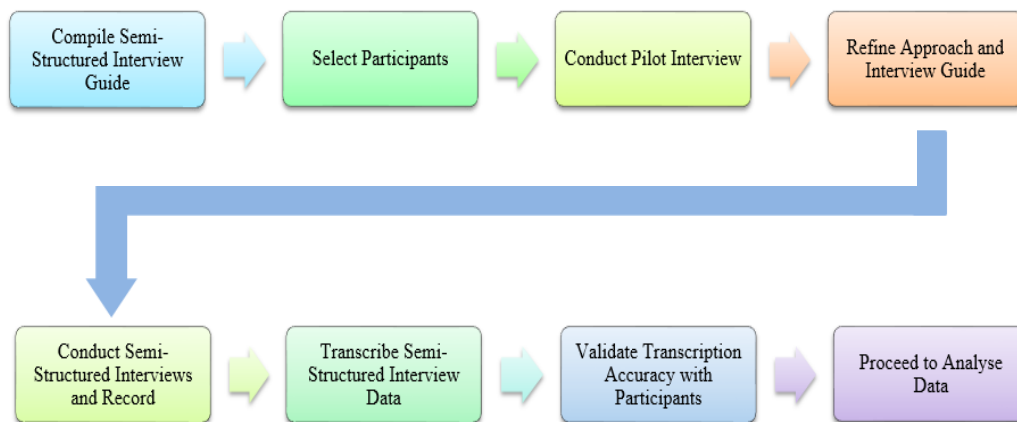
### **3.7.2 The Thematic Analysis Method**

The method of analysis is acknowledged to work well as it can be applied to reflect both reality and to go deeper and unpick or unravel the surface of “*reality*” (Willig, 2008). It also allows researchers to make a “*new whole out of the parts to provide novel concepts and higher-order interpretations, novel explanatory frameworks, an argument or new or enhanced theories or conclusions*” (Bethel and Bernard, 2010, p. 231). Benefits include its simplicity which makes it comparatively easy to learn, many admirers also respect its versatility, adaptability and its ability to yield rich detail using the minimal amount of organisation (Braun and Clarke, 2006). Furthermore, it does not demand deep theoretical commitments, meaning practitioners do not require the detailed theoretical and technological knowledge necessitated by some of the other approaches (Braun and Clarke, 2006). Its relative straightforward application means it goes “*beyond counting explicit words or phrases and focuses on identifying and describing both implicit and explicit ideas*” (Namey *et al.*, 2008, p.138), which helps to unearth themes salient in transcribed text at various levels (Attride-Stirling, 2001). This means its execution works well for the standalone investigator as well as for larger teams of many researchers who are cooperating on a bigger project. This unique quality makes it particularly suited to a group of researchers who possess variable levels of qualitative experience and contrasting proficiencies (Braun and Clarke, 2014).

All researchers should bear in mind that although this method is relatively straightforward to apply, and it can be used to favourable effect by a virtual research novice. Its simplicity, versatility and popularity should not disguise the fact that it is not suitable to analyse every piece of research or universally serve every single purpose (Braun and Clarke, 2013).

### **3.7.2 Summary of the Interview Design and Execution Procedure**

The process of designing the interview data collection phase through to analysis is summarised in Figure 3.3. The issue of validity, reliability and reflexivity in research will be discussed next.



**Figure 3.3:** A summary of the semi-structured interview design and execution process.

## **3.8 Research Validity, Reliability and Reflexivity**

### **3.8.1 The Importance of Validity in Research**

The results achieved from any research need to be proven so they carry weight and provenance. This is achieved through sound, quality research produced with rigour in an environment of trustworthiness (Seale, 1999; Mishler, 2000; Stenbacka, 2001; Davies and Dodd, 2002; Lincoln and Guba, 2005). Validity is a worthy consideration of any study, it asks does the research measure what it was intended to measure (Golafshani, 2003) or how truthful are the results achieved (Joppe, 2000). There are three components of validity that need to be considered as proposed by Punch (2005) and Silverman (2010) they include:

- 1) *Construct validity.*
- 2) *Internal validity.*
- 3) *External validity.*



Construct validity is defined by Zikmund (2003, p. 283) as “*the degree to which the measure confirms a network of hypotheses generated from a theory based on the concept... in its simplest form, if the measure behaves the way it is supposed to.*” When applied to this research there are no fixed construct from which to judge the legitimacy of the results. This is because construct validity typically has its roots in the positivist tradition (Winter, 2000), which is related to the quantitative methodology (Sarantakos, 2005; Yin, 2014). Therefore, it can be strongly argued that when using a qualitative approach, construct validity is not applicable because the findings cannot be quantified. However, to mitigate any possible criticism this research did follow advice from Yin (2013) who proposed allowing research subjects to view and critique their interview data, thereby providing some construct validity. In this case study this involved sharing the transcript data with relevant individuals, who were asked to confirm that the citations were a true and accurate representation of the interview that was held between themselves and the researcher. No changes were required, and all participants agreed that the data was a truthful and precise.

Internal validity is defined by Yin (2013, p. 33) as “*the establishment of a causal relationship, whereby certain conditions are shown to lead to other conditions, as distinguished from spurious relationships.*” Yin (2013) added that internal validity was not related to descriptive or exploratory research. As previously stated this research is exploratory, therefore the requirement to provide internal validity is nullified.

The final consideration is external validity which is defined by Skinner (1991, p. 222) as being “*concerned with the extent to which the findings can be generalised*”. External validity is affected by the researcher’s perception of the matter and the choice of paradigmatic assumptions made (Creswell and Miller, 2000). Sandelowski (1986, p. 31) argues that research findings cannot be declared as externally valid if the process adopted has “*produced conditions that are incomparable to conditions in the real world.*” Therefore, it is dependent on the extent to which the findings can be extrapolated to others outside the scope of the research (Silverman, 2010).

This study considers what inhibits teamworking in a safety critical organisation which is a large MRO, other service providers operate with relatively the same principals due to



stringent regulatory and OEM requirements. Therefore, it is argued that the results can be applied to other organisations that are operating using teams within the same sector. In this case Jackson (1995) argues qualitative based studies have an advantage over their quantitative counterparts because the experimental environment typically associated with quantitative studies do by their very nature reduce generalisability. Further arguments by Jackson (1995) state that the natural settings of qualitative studies reduce artificiality and therefore enhances external validity, cautioning however that small sample sizes may limit the ability to extrapolate the findings to other populations. Additionally, Sandelowski (1986, p. 30) argues that qualitative research “*is credible when it presents such faithful descriptions or interpretations of a human experience that the people having that experience would immediately recognise it from those descriptions or interpretations as their own*”, the quotes used are verbatim and were not altered in any way which gives additional levels of external validity. Further suggestions by Sandelowski (1986) that assist external validity include looking for correlations with other studies, performing additional questioning of research subjects, present conclusions in such a manner that they can be clearly linked to findings and finally performing research in an environment that is familiar to subjects. It was not possible to support the findings of this research with other studies because at present there are no comparable studies, neither was it desirable to subject the interviewees to additional questioning. The conclusions are presented in a manner that can be validated with the findings and all interviews were performed in the “*real world*”, in an environment that was familiar to the subjects. Furthermore, the researcher was extremely careful to “*not attempt to manipulate the phenomenon of interest*” in any way (Patton, 2002, p. 39). The mitigating actions taken to instil validity in this research are illustrated in Table 3.6.

**Table 3.6:** Summary of the strategy employed to ensure validity during this research.

<i>Consideration</i>	<i>Requirements</i>	<i>Action Taken by Researcher to Mitigate Risk</i>
<b><i>Keep Careful Records</i></b>	<ul style="list-style-type: none"><li>• <i>Keep a detailed record of all decisions that have been made and how they were made.</i></li></ul>	<ul style="list-style-type: none"><li>• <i>Researcher conscious of the issue.</i></li><li>• <i>Detailed records of any decisions made and how they were made, as well as recordings of interviews and verbatim transcripts have been retained and are available if independent verification is required.</i></li></ul>
<b><i>Avoid Holistic Error</i></b>	<ul style="list-style-type: none"><li>• <i>Be careful not to report only those events and behaviours that are normal, the exceptions must also be reported to ensure consistency of results.</i></li></ul>	<ul style="list-style-type: none"><li>• <i>Researcher conscious of the issue.</i></li><li>• <i>Researcher committed to reporting normal events and behaviours as well as any exceptions to ensure all viewpoints are holistic and a fair</i></li></ul>



		representation of all opinions present within the community under study.
<b>Guard Against Elite Bias</b>	<ul style="list-style-type: none"> <li>• Care needed not to over-represent the views of the elite in one's research.</li> </ul>	<ul style="list-style-type: none"> <li>• Researcher conscious of the issue.</li> <li>• Findings will be validated back to interview transcripts to ensure consistency.</li> </ul>
<b>Be Cautious of Being Taken Over by the Subject</b>	<ul style="list-style-type: none"> <li>• If the researcher identifies completely with the views of a subject, it may be difficult to maintain a clear distinction between the researcher's experiences and those of the subject.</li> </ul>	<ul style="list-style-type: none"> <li>• Researcher conscious of the issue.</li> <li>• Interview recordings will be reviewed for evidence of phenomenon.</li> </ul>
<b>Selection Effect</b>	<ul style="list-style-type: none"> <li>• The researcher may select an uneven population of opinion in which some factors may not be present.</li> </ul>	<ul style="list-style-type: none"> <li>• Researcher conscious of the issue.</li> <li>• Selection of subject's random with an equal representation of production-based personnel from all major areas included to ensure proportionality of results.</li> </ul>
<b>Setting Effects</b>	<ul style="list-style-type: none"> <li>• Studying a social situation may itself influence the results derived. The impact of the researcher's intrusion on the data collected may vary, distorting the results.</li> </ul>	<ul style="list-style-type: none"> <li>• Researcher conscious of the issue.</li> <li>• All interviews will take place in the same environment with the same conditions present for all.</li> <li>• All interviews will be undertaken within a finite period of two months from start to finish. This will greatly mitigate the influence and impact of any environmental changes that could lead to inconsistencies in the collected data.</li> </ul>
<b>Historical Influences</b>	<ul style="list-style-type: none"> <li>• Each subject interviewed is subject their own unique historical influences that inevitably get greater over a longer period.</li> </ul>	<ul style="list-style-type: none"> <li>• Researcher conscious of the issue.</li> <li>• All interviews will be undertaken within a finite period of two months from start to finish. This greatly mitigated the impact of any historical influences.</li> <li>• Selection of subject's random with an equal representation of production-based personnel from all major areas included to ensure proportionality of results</li> </ul>
<b>Construct Effects</b>	<ul style="list-style-type: none"> <li>• Concepts may be regarded differently by different researchers/subjects in different settings.</li> </ul>	<ul style="list-style-type: none"> <li>• Researcher conscious of the issue.</li> <li>• There is only one researcher involved in this study who is acting alone.</li> <li>• All interviews will take place in the same environment with the same conditions present for all. Furthermore, they will discuss the same phenomena that occurred in the same organisation therefore reducing the impact of "construct effect."</li> </ul>
<b>Organisational Change</b>	<ul style="list-style-type: none"> <li>• Changes in structure or strategy of the host organisations that occur during a research of a phenomenon can impact the consistency of the results achieved, this inevitably gets greater the longer the research is collecting data.</li> </ul>	<ul style="list-style-type: none"> <li>• Researcher conscious of the issue.</li> <li>• All interviews will take place within a finite period of two months from start to finish. This will greatly mitigate the influence and impact of any organisational changes that could lead to inconsistency in collected data.</li> <li>• No major changes in strategy or structure are planned for the organisation during the envisaged data collection phase.</li> </ul>

Source: Adapted from Sandelowski (1986, pp. 337-338).





### **3.8.2 Reliability in Research**

Reliability is another very important research consideration, it refers to the repeatability of the research instrument to produce comparable results in subsequent studies (Denzin and Lincoln, 2005), it also determines if the results can be reproduced under a similar methodology. After which the research instrument employed can be considered dependable (Joppe, 2000).

As stated this study was executed using a qualitative methodological approach, the issue of repeatability is present only in a single method. It is argued by some academics that since reliability is concerned with measurement then it has no relevance in qualitative based studies (Stenbacka, 2001; Golafshani, 2003) neither does the repeatability of results (Glesne and Peshkin, 1992). Indeed, the researcher agrees and acknowledges that within a semi-structured interview situation the production of repeatability is considerably difficult. Therefore, to ensure studies possess satisfactory quality alternatives need to be employed, they include precision (Winter, 2000), credibility and transferability (Hoepf, 1997) as a surrogate to measurements. These elements provide the lens for evaluation of the findings in qualitative research (Golafshani, 2003) with the researchers themselves considered “*the research instrument*” (Patton, 2002, p. 14). The researcher must understand that when using a qualitative methodology, credibility, neutrality or confirmability, consistency or dependability and applicability or transferability are the essential criteria to ensure quality (Lincoln and Guba, 2005), it is also sensible to ensure validation by subjects is present (Bryman and Bell, 2007). Additionally, the researcher must fully and faithfully report the context within which the observations were made if findings are to have any chance of being replicated (Jackson 1995). Table 3.7 illustrates the mitigating actions employed to ensure that reliability was present in this case study.

**Table 3.7:** Summary of the strategy employed to ensure reliability during this research.

<i>Consideration</i>	<i>Requirements</i>	<i>Action Taken by Researcher to Mitigate Risk</i>
<b><i>Focus on Verbatim Reports</i></b>	<ul style="list-style-type: none"><li>• <i>Stick to the facts.</i></li></ul>	<ul style="list-style-type: none"><li>• <i>Researcher conscious of the issue.</i></li><li>• <i>Interview guide formulated, and pilot tested carried out prior to commencing any interviewing.</i></li><li>• <i>Interviews will be recorded, and only verbatim transcripts generated.</i></li><li>• <i>Transcriptions will be provided to interviewees to validate.</i></li></ul>





<b>Use Multiple Researchers</b>	<ul style="list-style-type: none"> <li>• This allows the results of the researchers to be compared.</li> </ul>	<ul style="list-style-type: none"> <li>• Researcher conscious of the issue.</li> <li>• Limited resources and research environment does not allow for the involvement of additional researchers.</li> </ul>
<b>Use Subject Researchers</b>	<ul style="list-style-type: none"> <li>• Involves training individuals in observation techniques.</li> </ul>	<ul style="list-style-type: none"> <li>• Limited resources and research environment does not allow for the involvement of additional researchers.</li> </ul>
<b>Use Peer Examination</b>	<ul style="list-style-type: none"> <li>• Verify the results against the observations and experiences of fellow researchers.</li> </ul>	<ul style="list-style-type: none"> <li>• Researcher conscious of the issue.</li> <li>• There are no comparable research studies found on teamworking at Company 'A' or a similar industrial environment, therefore the findings once generated cannot be compared with similar research.</li> </ul>
<b>Use Mechanical Recording Devices</b>	<ul style="list-style-type: none"> <li>• This allows others to check your observations independently later.</li> </ul>	<ul style="list-style-type: none"> <li>• Researcher conscious of the issue.</li> <li>• Interviews will be recorded, and only verbatim transcripts generated which will be retained and made available if independent verification is required during the execution of the study.</li> <li>• The data will be destroyed after completion of the case study in line with ethical guidelines and guarantees to interviewees.</li> </ul>

Source: Adapted from Goetz and LeCompte (1984, pp. 41-43).

### **3.8.3 Ensuring Reflexivity**

The empirical material associated with constructivist orientated work does not pre-exist, it is compiled by an act of collecting data and is often a product of a social encounter (Gabriel, 2015), during which subjects may seek to impress, defer to or defy their interviewers (Gabriel, 2018). The dynamics are not just limited to the face-to-face interaction between researchers and their subjects. Every aspect of the research design process and its execution entails a wide range of political and ideological assumptions which can easily go unnoticed (Alvesson and Sköldbberg, 2009).

To ensure their studies are credible, researchers who use this paradigm must supplement the absent qualities by employing reflexivity, which is acknowledged to be the gold standard of the methodology and has enjoyed an increasing emphasis in recent years. Reflexivity is often regarded as “*the interpretation of interpretation*” (Alvesson and Sköldbberg, 2009, p. 9). It entails researchers being self-aware (Lambert, Jomeen and McSherry, 2010) and undertaking a continuous process of reflection of their own values (Parahoo, 2006). They must also recognise, examine and understand how “*social background, location and assumptions affect their research practice*” (Hesse-Biber, 2008, p. 17) and ensure the “*relationship between... the researcher and the participants is explicit*” (Jootun, McGhee and Marland, 2009, p. 45).



Researchers must give as “*full and honest an account of the research process as possible, explicating the position of the researcher in relation to the research*” (Reay, 2007, p. 611). There should also be an on-going process of vigilance and self-questioning exercised to enhance the trustworthiness and value of their work (Willig, 2008; Alvesson and Skoldberg, 2009). They should position themselves socially and emotionally in relation to the research subjects (Mauthner and Doucet, 2003) and always exercise caution by establishing and maintaining an appropriate degree of both social and emotional distance, an essential element of the reflexive process (Green, 2014). This can be hard to accomplish because researchers are by the nature of the constructivist paradigm part of the social world which they are trying to study (Shaffir and Stebbins, 1990; Morse, 1991; Ackerly and True, 2010). Researchers should find themselves deliberating the influence, aspirations, character, values, philosophies, experiences, belief systems, political commitments and social identities that shape their research (Palaganas *et al.*, 2017) and question the degree of influence they exert “*either intentionally or unintentionally, on the findings*” (Jootun, McGhee and Marland, 2009, p. 42).

During this investigation it was essential the researcher consistently evaluated his position to ensure it did not influence the data collection, analysis or findings in any way. This was executed by continually questioning oneself and acting in a consistent manner during the data collection phase and acting with vigour during the analysis and when collating the findings, which provided sound reflexivity. Obviously, there is always going to be some effect due to the researcher’s presence but being actively reflexive does reduce its impact.

It is noteworthy that during the interview phase guarantees were given that the data collected was both secure and anonymous. This was explained in detail by the process of informed consent and expressed verbally prior to beginning each interview as outlined in the interview guide. Lincoln and Guba (2005) advise that building and maintaining trust is essential to qualitative inquiry as without it, collecting meaningful data can be very difficult, Mercer (2007) agrees arguing that a solid base of trust is more likely to generate accurate and candid data. The researcher believes he was a trusted confidante and this aided the generation of deep, rich and meaningful data during the interview stage. Indeed, it is apparent from reading the transcriptions that such qualities are present, many contentious matters are discussed, ones that would not have been forthcoming if trust was not present. Therefore, it is strongly believed that the researcher assessed his position properly, acted in a reflexive



manner and considered the previously stated advice from Evered and Louis (1981) to mitigate any questions regarding research rigor, validity or reliability.

The researcher has a long history of employment at Company ‘A’, therefore this case study is considered “*insider research*” because it was performed in “*one’s own social group or society*” (Naples, 2003, p. 46). During such studies reflexivity is particularly important (Green, 2014) and additional reflexive efforts should be made to remain as fair and impartial as possible (Newbold *et al.*, 2014). Evered and Louis (1981) advises researchers should be aware of the key dimensions associated with inside enquiries such as the researcher’s relationship to the setting, the role of the researcher, the study aims are clear and the nature of the data and its meaning is clear. Table 3.8 illustrates the mitigating actions used to ensure that reflexivity was present throughout the execution of this case study.

**Table 3.8:** Summary of the strategy employed to ensure reflexivity was present during this research.

<b>Consideration</b>	<b>Requirements</b>	<b>Action Taken by Researcher to Mitigate Risk</b>
<b>Researchers Relationship to the Setting</b>	<ul style="list-style-type: none"> <li>• Must be involved and immersed.</li> </ul>	<ul style="list-style-type: none"> <li>• The researcher is employed at the research arena and therefore is involved and immersed in the everyday operations occurring at the organisation.</li> </ul>
<b>Source of Research Categories</b>	<ul style="list-style-type: none"> <li>• Interactive emergent from observation or experience.</li> </ul>	<ul style="list-style-type: none"> <li>• All matters chosen for further investigation in the literature review were deduced from a combination of observation and the experience of the facilities HR department and production area teams.</li> <li>• All matter considered were validated by the production area teams as relevant to teamworking.</li> </ul>
<b>Be Informative and Outline Aim of Enquiry</b>	<ul style="list-style-type: none"> <li>• Explain the research in depth.</li> </ul>	<ul style="list-style-type: none"> <li>• Research aware of the issue.</li> <li>• This was achieved by robust process of informed consent and the researcher clearly explaining the reasons for accomplishing the research prior to commencing data collection.</li> <li>• The researcher explained his position within the research to interviewees.</li> <li>• The aim of the inquiry was clearly outlined and had a definitive research problem supported by several research questions.</li> </ul>
<b>Gain Trust of Interviewees</b>	<ul style="list-style-type: none"> <li>• Researchers should gain the trust of the participants to ensure detailed and rich information is forthcoming.</li> </ul>	<ul style="list-style-type: none"> <li>• Research aware of the issue.</li> <li>• Researcher reassured interviewees that the data was safe and secure, and pseudonyms would be allocated to each person in accordance with the ethical stance adopted.</li> <li>• Their true identities would not be used or recorded or any form whatsoever.</li> <li>• All interviews were made to feel comfortable and relaxed prior to data collection.</li> <li>• Researcher maintained a friendly and consistent approach through all interviews.</li> </ul>



		<ul style="list-style-type: none"> <li>• This was complimented by the robust process of informed consent and the researcher clearly explaining the reasons for accomplishing the research prior to commencing data collection.</li> </ul>
<b>Asses Authenticity of Interviewees</b>	<ul style="list-style-type: none"> <li>• Be aware of interviewees not acting in an authentic manner.</li> </ul>	<ul style="list-style-type: none"> <li>• Research aware of the issue.</li> <li>• No interviews indicated that they were inauthentic.</li> <li>• Interviewees were spontaneous and noticeable honest and open in their communications.</li> </ul>
<b>Be Aware of Effect of Researcher's Presence</b>	<ul style="list-style-type: none"> <li>• The researcher must mitigate the influence of their presence.</li> </ul>	<ul style="list-style-type: none"> <li>• Research aware of the issue.</li> <li>• The researcher stresses that he was operating in an independent capacity and the research's aim was clearly outlined.</li> </ul>
<b>Be Aware of the Role of Researcher</b>	<ul style="list-style-type: none"> <li>• The research is classed as an actor within the case study.</li> </ul>	<ul style="list-style-type: none"> <li>• Research aware of the issue.</li> <li>• The researcher maintained a professional level of interaction with each interviewee, this was upheld during all parts of the case study.</li> </ul>
<b>Assess Type of Knowledge Acquired</b>	<ul style="list-style-type: none"> <li>• Particular and idiographic praxis.</li> </ul>	<ul style="list-style-type: none"> <li>• The researcher was aware how to act appropriately throughout the study and is well accustomed to the processes and procedures of the research arena and has rich appreciation of the overall organisational context as he is a long-term employee who has performed in a variety of roles and has direct experiential contact with the organisation and clearly understands the events, activities and utterances of specific situations.</li> </ul>
<b>Nature of the Data and Meaning</b>	<ul style="list-style-type: none"> <li>• Interpreted and contextually embedded.</li> </ul>	<ul style="list-style-type: none"> <li>• The research was directly involved in the setting under investigation therefore has a clear understanding of the organisational phenomena in the context in which they occur.</li> <li>• Meaning was developed from the point of view of the interviewees and relied on their definition of the situation. This was clarified throughout the interview phase and re-verified with the interviewee once the data analysis was complete.</li> </ul>
<b>Be Actively Reflexive Throughout</b>	<ul style="list-style-type: none"> <li>• Continuously reflect on one's own effect on the research.</li> </ul>	<ul style="list-style-type: none"> <li>• Research aware of the issue.</li> <li>• Throughout the case study the researcher consistently reflected on the process and the part he was playing in it to ensure that his actions and values did not influence any actions, interpretation or findings.</li> <li>• Researcher acted in an impartial capacity and consistently questioned his involvement and impact on the process.</li> <li>• Socially and emotively removed from interviewees,</li> <li>• Strive to make interviewees welcome, calm and valued.</li> <li>• Consistent process maintained for all interviews.</li> <li>• Relationship kept explicit.</li> <li>• Consistently conscious of acting in a fair and impartial manner.</li> <li>• Transcription, analysis and collation of findings completed in a consistent manner.</li> </ul>
<b>Validation Basis</b>	<ul style="list-style-type: none"> <li>• Experiential.</li> </ul>	<ul style="list-style-type: none"> <li>• Extensive validation strategy employed to ensure the research results were presented in an accurate manner.</li> <li>• Significant strategy employed to ensure the research was reliable and reproduceable if required.</li> <li>• All data was securely stored and available if validation was required.</li> </ul>

Source: Adapted from Evered and Louis (1981).



### **3.9 Ethical Considerations and Process of Informed Consent**

#### **3.9.1 Ethics in Research Practice**

Research ethics have their roots in the post-war period at the time of the Nuremberg trials. The appalling atrocities performed during the war years under the guise of “*scientific research*” led directly to the creation of the Nuremberg code in 1949. Although never adopted formally into law, the code consisted of ten basic rules giving individuals protection around the most basic and fundamental of human principals. The core of the document included consent, proportionality, necessity and the right to withdraw from a scientific study at any time. A little later, the field of ethics evolved further when the World Medical Association adopted the “*declaration of Helsinki*” in 1964. The “*declaration*” laid out the basic ethical principles for the conduction of medical research on human subjects, including research on identifiable human material and data. The basic principles behind the declaration was “*for all research, the well-being of the individual research subject must take precedence over all other interests*” (World Medical Association, 2016).

Over the decades there have been various other frameworks adopted that have progressively considered and advanced human rights since the ground-breaking and innovative Nuremberg codes and Helsinki declarations. They all aimed to increase human protection to a point where today, ethics is a highly pertinent and much respected requirement for researchers to incorporate when conducting studies.

#### **3.9.2 Ethical Considerations**

Ethics pertain to doing good and avoiding harm (Orb, Eisenhower and Wynaden, 2000; Alderson, 2004); guided by principles of respect for people and benevolence (Capron, 1985). They are considered the cornerstone for conducting effective and meaningful research (Drew, Hardman and Hosp, 2008), with their application paramount during any inquiry to ensure the safety of subjects and preserve and protect human rights (Carr, 1994).

Although there are no specific ethical rules for how to make decisions in a desirable “*ethical*” manner, researchers must draw on their own ethical principles to ensure they act with integrity (Daly, 2007). It is also imperative that the personal behaviour of researchers



and how they relate to and treat others when conducting their research is always just and fair (Connolly, 2003).

### **3.9.3 Ethical Courtesy Prior to Commencing Research**

Prior to commencing any study, the researcher must clearly state the research objectives to all subjects in an authentic manner (Munhall, 1988), with full disclosure of the purpose of the study (Patton, 2002). The researcher must also ensure subjects understand what the information gathered will be used for and the choices they have during and after the study (Goldman and Choy, 2001). A detailed description acts as a deterrent for the researcher to change the objective of the study, as when subjects are fully informed, then the researcher becomes more accountable and is increasingly likely to maintain ethical conduct throughout the whole of the research process (Hawkins and Emanuel, 2008).

The expectation should always be that in any high-quality research a high ethical standard is applied (Economic and Social Research Council, 2010), guided by the bioethical principles of justice, beneficence, non-maleficence, respect for human rights and personal autonomy. This should continue to be executed throughout the entire process (Haahr, Norlyk and Hall, 2014), with the primary concern the safety and protection of the human subjects involved (Williams-Jones and Holm, 2005).

### **3.9.4 Key Ethical Area's and Unethical Practice**

There are several key areas that need to be considered from an ethical standpoint including, valid consent, withdrawal, confidentiality, anonymity, fair treatment and rights of privacy for subject involved (Code of Human Research Ethics, 2011). Therefore, it is the researcher's own interest to ensure that subjects have a complete understanding of the purpose and investigative methods to be employed during the study and are also aware of any potential risks or demands that are likely to be placed upon them. This is achieved by explain the full process as clearly as possible (Best and Kahn, 2006; Jones and Kottler, 2006).

Researchers also have the ethical responsibility to ensure they are not wasting subjects time by only collecting data that has a practical use (Bacon and Olsen, 2005), consequentially, research must add "*scientific value*" (Code of Human Research Ethics, 2011) to its respective community. They should always be attentive and describe what good will come of the research (Munhall, 2007; Dierckx de Casterle, Verhaeghe and Kars, 2011), and what effect





the study will have on further broadening the understanding of the field of study, explaining the potential contribution to knowledge.

Any hint of unethical practice can have a negative influence on attitudes towards science and it is most unfortunate that when such abuses are committed, although by a few, they are often the cases that receive the most widespread publicity (Mauthner *et al.*, 2003). Often when exposed they inevitably have an impact on the reputation of social science and distress its reputation within the public domain, leading to questions being raised around the role research plays in the world and its perceived usefulness and effectiveness (Wiles *et al.*, 2006).

### **3.9.5 The Process of Informed Consent**

The process of gaining informed consent from research subjects is far from a straightforward one (Wiles *et al.*, 2006). After being informed of the research process, its aims and objectives, the risks and benefits (Bulger, 2002) and providing assurances around confidentiality of the collected data (Creswell, 2014), individuals are given the right to decide if they want to participate or decline involvement in the study (Drew, Hardman and Hosp, 2008) by a making a voluntary and un-coerced decision (Emanuel *et al.*, 2000, Emanuel, 2004). All subjects of this research were subject to the process of informed consent and all agreed to sign the relevant document to acknowledge this.

### **3.9.6 Subject Confidentiality, Anonymity and Protection of Data**

It must be respected that privacy has become a “*right*” of which is highly treasured in contemporary society (Drew, Hardman and Hosp, 2008), with confidentiality commonly viewed as parallel to the principles of privacy (Oliver, 2003; Gregory, 2003). Protecting the privacy of subjects by keeping data confidential is of utmost concern to researchers (Wolf, Zandecki and Lo, 2004) and where threats to such confidentiality are present they should be anticipated beforehand (Clark, 2006). The process of maintaining anonymity is the responsibility of the researcher, even if put under pressure to identify subjects (Grinyer, 2002), under no circumstances should anything reported from the study permit the identification of subjects (Weiss, 1994).





There are some critics of this including Bulmer (2001) who believe that in today's information driven society upholding the right to confidentiality and privacy is not as straightforward as before, Van den Hoonaard (2002, p. 8) agrees adding "*promises of confidentiality are easier to make than to keep.*" Despite these warnings the researcher understands individuals have the right for their affairs to be private (Wiles, Crow and Charles, 2006). Therefore, the names of subjects of this study was not documented whatsoever. When the researcher identified a need for direct citation of data to be used the extract was given a substituted coded pseudonym, which is customary practice (Corden and Sainsbury, 2006; Wiles, Crow and Charles, 2006). This ensured that the subjects identification was protected as far as was practical. The only information derivable from the coded pseudonym is the subjects gender and area of work, no further information is given.

The researcher is also aware of deductive disclosure, also known as internal confidentiality (Tolich, 2004), which occurs when the traits of individuals or groups make them identifiable in research reports (Sieber, 1992). One of the problems of the data collected being qualitative is often because of the rich descriptions given confidentiality breaches via deductive disclosure can be a concern (Kaiser, 2009), due to the random selection of the subjects in this study and the number of production area personnel in each area this is mitigated as far as possible.

Other debates include if it is appropriate for researchers to send transcripts to subjects so that they can verify they agree with the context and the way it is presented (Smyth, 2004). Some object to this approach and view the transcripts as belonging to the researcher who collected the data. Arguing once the data collection is completed then subjects should no longer be allowed any input into how the data is used (Wiles, Crow and Charles, 2006). In this case the researcher did approach the subjects and elected to share the transcripts to verify that the dialogue was presented in the correct context, this was done from a moral perspective and ensured external validity.

Researchers are also responsible for safeguarding that adequate security is provided for collected data and appropriate countermeasures have been taken to prevent accidental disclosure (Easter, Davies and Henderson, 2004). In practice, this often means protecting any research data or identity of subjects from inadvertent disclosure by physical means, such as utilising locked cabinets or password protecting computer files or other methods such as using



legal means, employing signed confidentiality statements or using methodological means, such as coded files.

### **3.9.7 Summary of the Ethical Strategy Applied During the Case Study**

As stated in any research there are some basic ethical issues that must be addressed, Denzin and Lincoln (2000) proposed the following stipulations must be considered as the minimum standard:

- 1) Seek informed consent.*
- 2) Safeguard privacy, confidentiality and anonymity.*
- 3) Ensure accuracy of data.*

Further to this Cooper and Schindler (2003) suggested the following ethical guidelines that were adhered to:

- 1) Explain the benefits of the study.*
- 2) Explain the rights of subjects and applicable protections.*

Ethical safeguards are incorporated into the DBA acceptance process required by the University of South Wales (USW) prior to commencing any research. The following standards have been fully upheld throughout the research:

- 1) A proposal was produced that set out the ethical stance of the research and presented to the USW ethical committee to ensure that research complies with the “University General Ethical Guidelines for Research and Consultancy” dated January 2008. Attention was paid to Section 1.2 Ethical Responsibilities, Section 2.2.1 Informed Consent and Section 2.2.2 Confidentiality and Anonymity. At this stage without the approval of USW ethical committee the study could not progress any further. The ethics associated with this study were deemed to be straightforward and approval was granted.*
- 2) Prior to any data collection taking place, all subjects were fully informed and given an information sheet about the study explaining their rights and the protection they would receive during and after the study. They were also requested for their informed consent at this stage.*
- 3) During and after data collection and transcription no reference whatsoever were made to any subjects that could lead to identification.*
- 4) The collected data and copies of transcriptions were saved on a password protected USB flash drive and placed in secure locked storage in a locked office that was only assessable by the researcher.*



**5) Once all transcriptions of collected data were analysed and validated by the subjects it was securely destroyed.**

It is felt that these five safeguards ensured that the researcher fully adhered to the ethical obligations as laid out by USW, provided full unconditional preservation of the anonymity of subjects and offered adequate protection and subsequent safe destruction of the collected data. To further protect subject's privacy and alleviate any possible organisational sensitivity around collected data no duplicates of any data were made. A high-level summary of the ethical framework is provided in Table 3.9 after which the chapter will close.

**Table 3.9:** Summary of the Strategy Employed to Ensure Ethical Conduct During This Case Study.

<b>Consideration</b>	<b>Action Taken by Researcher to Mitigate Risk</b>	<b>Reference / Supporting Document</b>
<b>Legitimacy of Research Activity</b>	<ul style="list-style-type: none"> <li>• Researcher conscious of the issue.</li> <li>• Purpose of study discussed with all subjects to underpin legitimacy.</li> <li>• Contact details of University of South Wales supporting supervisors applicable to this research were supplied to further support legitimacy.</li> </ul>	<ul style="list-style-type: none"> <li>• Interview Guide.</li> </ul> <p>(Appendix A) <sup>9</sup></p> <ul style="list-style-type: none"> <li>• Informed Consent Cover Letter and Permission Slip.</li> </ul> <p>(Appendix B) <sup>10</sup></p>
<b>Interview Subjects Fully Informed</b>	<ul style="list-style-type: none"> <li>• Researcher conscious of the issue.</li> <li>• Interview subjects provided with initial email that requested volunteers to participate in the study when accepted they were given the interview guide, informed consent cover letter and permission slip. The documents detailed the following advice:               <ul style="list-style-type: none"> <li>○ Background of the research.</li> <li>○ Procedures to be followed.</li> <li>○ Possible discomforts and risks.</li> <li>○ Responsibilities of the researcher.</li> <li>○ Privacy, confidentiality and anonymity.</li> <li>○ Responsibilities of the interview subject.</li> <li>○ Freedom of consent.</li> <li>○ University of South Wales supporting supervisors contact details.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Interview Guide.</li> </ul> <p>(Appendix A)</p> <ul style="list-style-type: none"> <li>• Informed Consent Cover Letter and Permission Slip.</li> </ul> <p>(Appendix B)</p> <ul style="list-style-type: none"> <li>• Email to Staff Requesting Volunteers to Participate in the Study.</li> </ul> <p>(Appendix C) <sup>11</sup></p>
<b>Informed Consent</b>	<ul style="list-style-type: none"> <li>• Researcher conscious of the issue.</li> <li>• Informed consent requested and was forthcoming from all subjects.</li> </ul>	<ul style="list-style-type: none"> <li>• Interview Guide.</li> </ul> <p>(Appendix A)</p> <ul style="list-style-type: none"> <li>• Informed Consent Cover Letter and Permission Slip.</li> </ul>

<sup>9</sup> To view Appendix A, 'Interview Guide' please see page 333.

<sup>10</sup> To view Appendix B, 'Informed Consent Letter and Permission Slip' please see page 335.

<sup>11</sup> To view Appendix C, 'Email to Staff Requesting Volunteers to Participate in the Study' please see page 337.



		<b>(Appendix B)</b>
<b>Accuracy of Reporting the Collected Data</b>	<ul style="list-style-type: none"> <li>• Researcher conscious of the issue.</li> <li>• Interviews were digitally recorded and transcribed verbatim.</li> <li>• A copy of the transcription was provided to each interview subject for validation.</li> <li>• Subjects were advised to contact the researcher if they had any issues with the content of the transcription.</li> <li>• Subjects were also offered a copy of the digital audio of the interview if they required.</li> <li>• No interviews expressed any discontent with the transcripts content or opted for a copy to retain.</li> </ul>	<ul style="list-style-type: none"> <li>• Not Applicable</li> </ul>
<b>Anonymity of Interview Subjects and Confidentiality of Information</b>	<ul style="list-style-type: none"> <li>• Researcher conscious of the issue.</li> <li>• All data “de-identified” using coded pseudonyms throughout the research.</li> <li>• All applicable documents and digital media password protected and kept in a secure locked location.</li> <li>• This was assessable only by the researcher.</li> </ul>	<ul style="list-style-type: none"> <li>• Interview Guide.</li> </ul> <b>(Appendix A)</b>
<b>Interview Subject Comfort</b>	<ul style="list-style-type: none"> <li>• Researcher conscious of the issue.</li> <li>• Interview subjects were made to feel comfortable and visibly settled prior to interviewing commenced in a familiar environment.</li> </ul>	<ul style="list-style-type: none"> <li>• Interview Guide.</li> </ul> <b>(Appendix A)</b>
<b>Research to be Conducted with Accepted Academic Research Protocols</b>	<ul style="list-style-type: none"> <li>• Researcher conscious of the issue.</li> <li>• Ethical approval requested and forthcoming from the University of South Wales Research Ethical Committee.</li> </ul>	<ul style="list-style-type: none"> <li>• Ethical Proposal Document.</li> </ul> <b>(Appendix D) <sup>12</sup></b>

Source: Adapted from Ticehurst and Veal (2000) and The University of South Wales Ethical Policy (2013).

### **3.10 Chapter Summary**

#### **3.10.1 Summary**

This chapter outlined the paradigmatic, methodological and data collection choices that must be considered prior to launching the actual case study. After assessment of the various choices available it was concluded that the study will follow a constructivist paradigm, a qualitative research methodology that would utilise semi-structured interviewing techniques as a data collection method. It is felt that the adopted strategy was the most suitable

<sup>12</sup> To view Appendix D, ‘Research Ethical Proposal’ please see page 338.



in which to reveal rich and meaningful data on the chosen matter of interest during the execution of the case study.

The researcher decided that it was prudent to conduct a pilot study; this was undertaken with a small group of volunteers prior to launching the main study to ensure the interview guide was suitable and yielding the desired dialogue, minor adjustments were necessary and re-verified with the volunteers until satisfactory. Validity, reliability and reflexivity were also considered, and a strategy implemented to ensure each were delivered in a satisfactory manner. Finally, the subject of ethics and informed consent was discussed, and a further strategy implemented to ensure such principals were upheld in the highest regard throughout the whole research process. This gave the researcher an appreciation of the importance of putting mechanisms in place to protect the collected data and subject's identity to ensure anonymity was maintained throughout the whole study and beyond.

To further enshrine such important aspects of the research process, a research information sheet was distributed to potential subjects to allow them to make an informed decision about participating (Wiles, Crow and Charles, 2006), this included information about the researcher in line with recommendations found in the relevant literature (Wilkinson, 2001; Scraton, 2004) along with the research and the ethical guarantees offered. This part of the study although challenging and complex at times gave the researcher a vital insight and significantly broader understanding of the many complex considerations that need to be carefully deliberated. The following chapter will discuss the analysis of findings.

\*\*\* End of Chapter 3 \*\*\*



## **~ Chapter 4 – Analysis of Findings ~**



## CHAPTER

# 4

## 4.0 ANALYSIS OF FINDINGS

**“EDUCATION IS THE MOST POWERFUL WEAPON WHICH YOU CAN USE TO CHANGE THE WORLD...”**

*Mandela*

**~ Nelson Rolihlahla Mandela**

**(1918 - 2013)**

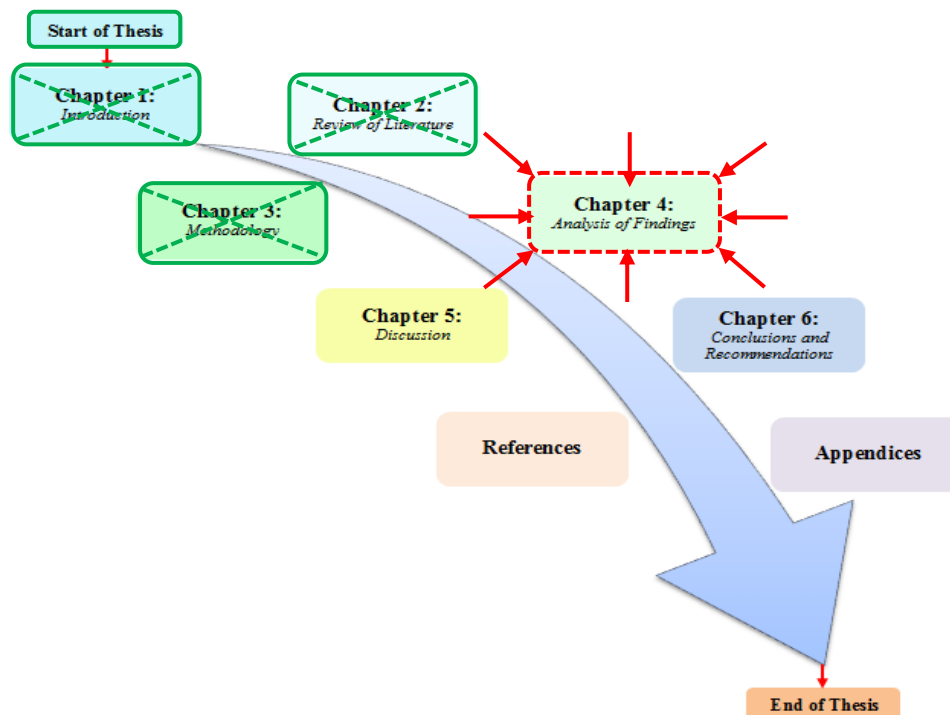
*South African Civil Rights Anti-Apartheid Activist, Father of the Nation, Nobel Prize Winner, 1<sup>st</sup> Black South African President*

### 4.1 Thesis Progression

#### 4.1.1 Progress Map

The fourth chapter discusses the analysis of findings generated during the research.

Figure 4.1 illustrates the progression of the thesis so far.



**Figure 4.1:** This chapter is concerned with the analysis of findings.

### 4.2 Chapter Introduction and Objectives

#### 4.2.1 Introduction

During this chapter, a brief discussion is held on the subject demographics and data sample. It gives a summary of the pertinent findings generated during the analysis of the transcribed data that was collected during twenty-two semi-structured interviews. The





interviews were conducted utilising a random population of highly skilled, hourly paid employees, all of which were invited to take part in the study via a blanket communication requesting participation (*see Appendix C*)<sup>13</sup>. After collection the raw data was transcribed and subjected to thematic analysis, during which five themes emerged that were deemed to be of interest and worthy of further scrutiny. They were a product of the interview guide that was used to prompt subjects to explore various matters and helped to keep the study bounded to some degree (*see Appendix A*)<sup>14</sup>. The perspectives given provide an in-depth perspective of the current state of teamworking at Company 'A', it is this dialogue that is comprehensively examined for the remainder of the chapter.

#### **4.2.2 Objectives of the Chapter**

It is the objective of this chapter to firstly discuss the demographics of the study population. It then develops to present the dialogue that was a product of the analysis undertaken on the transcription data and puts prominent statements into context within the parameters of the five emergent themes.

### **4.3 Subject Demographics**

#### **4.3.1 Research Population Specifics**

The data collection was performed among a population of twenty-two subjects, with two chosen from each of the eleven major production areas. A general communication was distributed to both the production based and office hourly staff to enlist participants, comprising of a total of approximately eight-hundred-and-fifty invitations. A considerable number of the hourly paid employees expressed an interest in participating in the research during the canvassing stage.

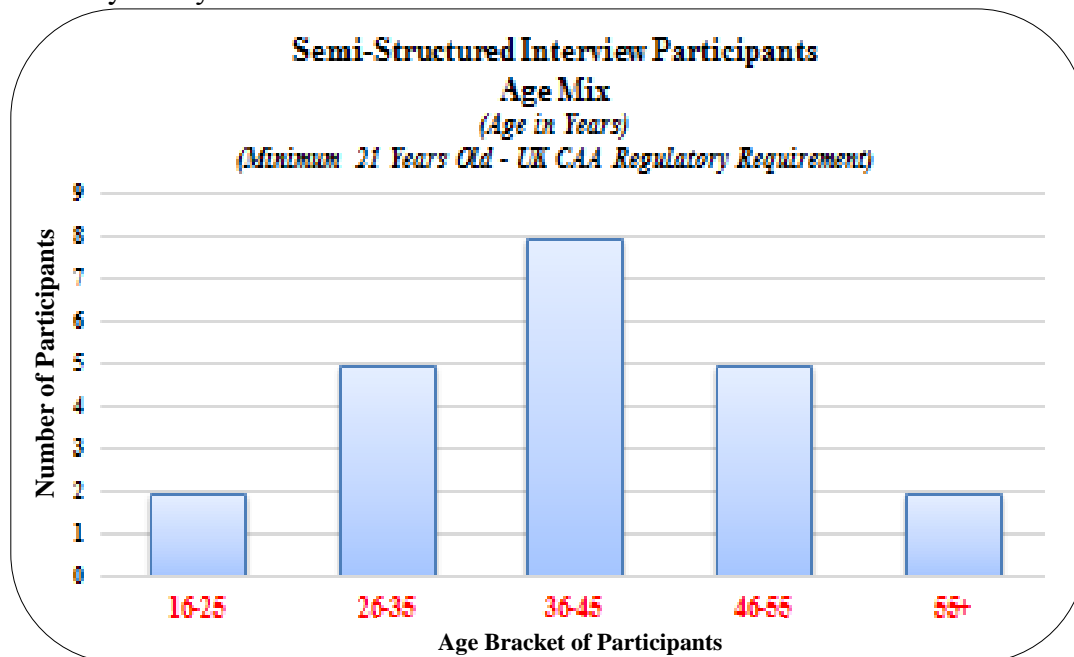
The average age of the randomly chosen subjects was forty-one years old with a range of twenty-one to sixty years old, twenty-one years old is the minimum age for Aircraft Engineers in the UK as prescribed by the regulator the Civil Aviation Authority (CAA). The

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<sup>13</sup> To view Appendix C, 'Interview Guide' please see page 337.

<sup>14</sup> To view Appendix A, 'Email inviting production area personnel to participate in the research study' please see page 333.

average experience in the company amongst the population is seventeen years with a range of two to thirty-four years' service.

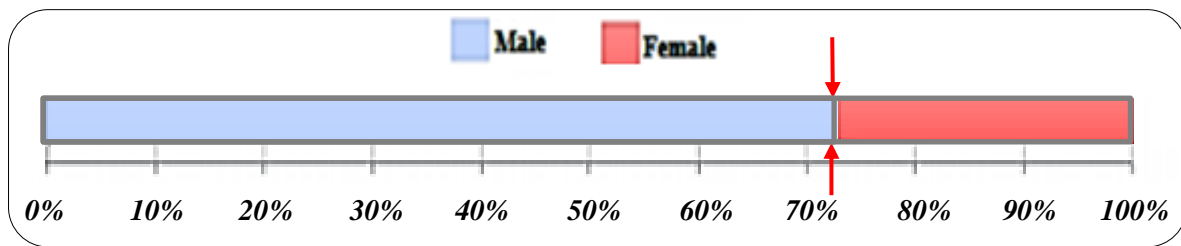


**Figure 4.2:** The age mix of the subjects who took part in the research.

Source: Developed from Data Generated by this Research (2018).

All twenty-two interviews undertaken varied significantly in length, the shortest was approximately forty-five minutes and the longest was approximately two-hours-five minutes. The exercise took a total period of just over six weeks to complete. This was longer than the amount of time initially estimated by the researcher, but unavoidable as it was driven by the availability of the subjects. Most interviews had to be re-organised at least once or sometimes twice due to the facility being unseasonably busy at the time the original interviews were scheduled. Flexibility was essential as the facility is an operational environment which has many variables at work which continuously prompt change.

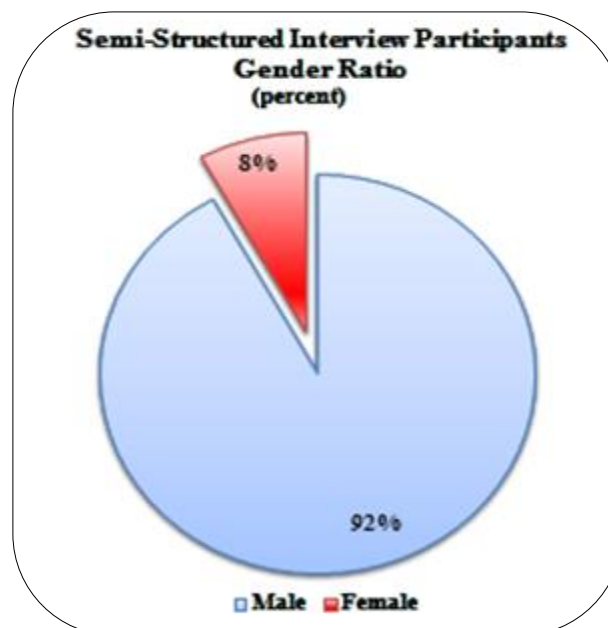
As stated the facility is engineering based which unfortunately is an industry that is notorious for being male dominated (Sanghani, 2015; Eurostat, 2016; Peers, 2016; Easton, 2017). Figure 4.3 illustrates the gender divide in the engineering and manufacturing industries experienced throughout the European Union. In recent years the organisation has applied a lot of effort to address the gender imbalance that was present within the workforce. This has been a successful strategy, albeit the change is gradual as it is driven by natural wastage of the existing employees and introduction of new personnel mostly via an annual apprenticeship intake.



**Figure 4.3:** The gender mix within the engineering and manufacturing sectors remains male dominated throughout the European Union.

Source: Eurostat (2016).

The current gender split overall at Company ‘A’ is 92% male as opposed to 8% female. Although there is a significant difference present between the sexes as stated the split is equalising. Whilst selecting the population of interview subjects it was decided to include a mixture of twenty males and two females to aid data collection. This reflects the actual gender split found in the present populace of aircraft engineer’s and office hourly grades at the facility. The gender ratio was confirmed as accurate by the organisations Human Resources department. It is worth mentioning that during analysis of the collected interview data no gender differences were apparent in any of the perspectives given, all the data in the transcriptions was found to be gender mutual.



**Figure 4.4:** The gender mix of subjects is typical of what is experienced throughout the production areas at the facility.

Source: Developed from Data Generated by this Research (2018).



The final consideration when decide on the criteria for suitable subjects was their distribution across the facility. This ensured the study was non-discriminatory and that a fair representation of equal opinion was realised from all the major areas. This was very important, as any over-represented sections could have possibly served to corrupt the collected data, this approach ensured a fair representation was given. As previously discussed during the ethical debate each subject was given a unique code to ensure their identities were protected and they remained anonymous, Table 4.1 illustrates the areas represented, the gender and unique code allocated to each subject, the analysis of findings will follow.

**Table 4.1:** Illustrates the area's the interview subjects represent and the unique designated codes allocated to protect their identity.

<i>Employee's Classification, Area of Work and Allocated Team</i>	<i>Unique Designated Subject Pseudonym</i>
<i>Aircraft Engineers, Pre-Input/Healthchecks</i>	<ul style="list-style-type: none"><li>• PIHCAE-M1</li><li>• PIHCAE-M2</li></ul>
<i>Aircraft Engineers, Bulk and Detail Disassembly</i>	<ul style="list-style-type: none"><li>• BDDAE-M1</li><li>• BDDAE-F1</li></ul>
<i>Aircraft Engineers, Detail View Bay</i>	<ul style="list-style-type: none"><li>• DVBAE-M1</li><li>• DVBAE-M2</li></ul>
<i>Aircraft Engineers, Repair</i>	<ul style="list-style-type: none"><li>• RAE-M1</li><li>• RAE-M2</li></ul>
<i>Aircraft Engineers, Kitting</i>	<ul style="list-style-type: none"><li>• KAE-M1</li><li>• KAE-M2</li></ul>
<i>Aircraft Engineers, Sub-Assembly</i>	<ul style="list-style-type: none"><li>• SAAE-M1</li><li>• SAAE-M2</li></ul>
<i>Aircraft Engineers, Final Mechanical Assembly</i>	<ul style="list-style-type: none"><li>• FMAAE-M1</li><li>• FMAAE-M2</li></ul>
<i>Aircraft Engineers, Final Electrical Assembly</i>	<ul style="list-style-type: none"><li>• FEAAE-M1</li><li>• FEAAE-M2</li></ul>
<i>Aircraft Engineers, Pre-Rig/Adjust and Test</i>	<ul style="list-style-type: none"><li>• PRATAE-M1</li><li>• PRATAE-M2</li></ul>
<i>Quality Engineers, Quality Control</i>	<ul style="list-style-type: none"><li>• QCAE-M1</li><li>• QCAE-F1</li></ul>
<i>Customer Operations Engineers, Technical Records</i>	<ul style="list-style-type: none"><li>• TRAE-M1</li><li>• TRAE-M2</li></ul>

Source: Developed from Data Generated by this Research (2018).



## **4.4 Analysis of Findings**

### **4.4.1 Overview of Findings**

During the semi-structured interviewing phase of the research subjects were first encouraged to give an overview of their general teamworking experiences prior to going into any depth on a topic. Once the individuals were calm, relaxed and the conversation was spontaneously flowing then more of the specific aspects of teamworking was carefully probed. In effect, the broad subject was narrowed down as much as the dialogue permitted with support being given by the interview guide to keep the discussion on-track and focused.

When a subject of interest was being discussed the investigative strategy was to let the individual talk at general level, then once the conversation was firmly established, more specific questions were then asked to reveal further detail if required. This allowed the researcher to dive deeper into the matter and helped to improve the quality of the information being conveyed. There were also occasions where the conversation was edging off topic, during these times the researcher asked more specific question to get things back on track albeit gently to avoid upsetting the flow of conversation. The researcher felt that it was the finer detail that exposes the subject's true feelings around certain subjects; therefore, it was significant to the provenience and substance of the actual data being collected. Overall, the length of the data collected approximately thirty-five hours of dialogue. Conversion of the recorded data took more than one-hundred-and-twenty hours after which it was given back to the subjects for verification purposes, after which it was subjected to a process of thematic analysis. The product of the analysis were the following five emergent themes they include:

**Table 4.2:** *The five emergent themes generated during analysis of the transcriptions*

<i>Title Assigned to the Emergent Theme</i>
• <i>'The implications of effective training to teamworking.'</i>
• <i>'The process of making decisions within teams.'</i>
• <i>'The significance of established roles and responsibilities to teamworking.'</i>
• <i>'The use of incentives to enhance team performance.'</i>
• <i>'The role of middle management within the team environment.'</i>

*Source: Developed from Data Generated by this Research (2018).*



The detailed responses of what was disclosed, and the actual findings associated with each theme will be explored in greater depth in the subsequent analysis of findings that will form the remainder of this chapter. The theme concerning “*the implications of effective training to teamworking*” will be the first to be examined.

#### **4.4.2 Emergent Theme One ‘The Implications of Effective Training to Teamworking’**

This emergent theme was given the unsophisticated title which is by no means a reflection of its true importance, namely “*the implications of effective training to teamworking*”, the content of this discussion is seemingly self-explanatory to the reader. After assessing the transcriptions there were found to be many paragraphs that contained some very substantial and revealing dialogue around the topic of training. During all the interviews team training was discussed at length, with most subjects very passionate about this subject and very forthcoming with information. For this reason, the researcher believes this topic is a very emotive issue and close to almost all the subject’s hearts and thoughts. The result of the detailed conversations was that rich data was collected, which served to further understanding of this matter.

Once the discussion was established the researcher tentatively asked if the subject had received team training in any format at all, for those who responded “yes”, then the quantity of the team training received was questioned and the quality and effectiveness probed in-depth. Further questions concentrated around if team members felt that the training they received had given them the necessary skills they needed to be confident to participating in, and work effectively as, a team. Other questions were asked about training these concentrated on the key points raised during the interview dialogue.

Out of the subjects who answered “no” to receiving team training the researcher explored the advantages individuals felt they would acquire from receiving such training and verified if they believed that they felt they did or did not require any training at all. Further exploration looked at what individuals felt their training needs were what components of training they deemed were most important to aid their teamworking journey and again concentrated on key points raised. At this point the researcher would like to emphasise that as the interviews were conducted in a semi-structured manner, the examples described was not followed to the letter and the approach adopted was flexible in its execution. Obviously, this



was depending on what direction the subject took the interview, as they were the drivers behind the dialogue not the researcher himself.

Out of the population of subjects who had received team training, none of them made any favourable comments about it. Indeed, there were several individuals, who were quite negative in their comments. The whole issue seemed to be a source of considerable frustration to most. When probed further the subjects believed that their team training was minimal, ill thought out and not particularly relevant to the organisational context. After checking with the organisation's human resources and training department it was discovered that there were in fact two distinct phases of training undertaken as well as a few one-off training sessions that concentrated on the "*Starpoint*" roles and responsibilities.

Out of the two distinct team training phases, one of these sessions was provided approximately five years ago, and lasted for only a single afternoon, off-site at a local hotel and given to all employees both production area and office-based staff. Its content was described as very limited with the discussion taking place on just one minor aspect of teamworking, which involved educating team members of the benefits of working within a team-based environment. Any subjects who had completed it could not give detailed accounts of the training content and the whole affair seemed to be at best a little hazy. From the feedback, it seemed that many subjects struggled to understand exactly what the training has achieved. Some others went further and claimed that the training was not value for time or money and it really did not achieve anything at all.

The latter of the two-distinct team teamworking sessions took place around two years ago; it was completed on-site and delivered by members of the facilities training department. It was different to the former training in that it was not universal available to all. Rather it consisted of several proposed modules whose delivery was limited to a small minority of teams who were chosen to exclusively trail new initiatives. The rationale behind the so-called "*pilot*" teams was to assess the suitability of any new training material prior to rolling it out base-wide to all teams. From the interview feedback, this intervention was also short lived, the discussions imply that they did not last any longer than three separate training sessions. There is more information presented on these teams further on in the theme findings.





Out of the many perspectives' given on team training, the following subject questioned the amount of team training he has received during the past twenty years, he alluded to the unsuitability of the “*one size fits all*” approach that was followed when Company ‘A’ initially implemented teamworking. He doesn’t think the same approach should be taken in other facilities. There are unique aspects applicable to Company ‘A’s’ working environment that were not considered during the launch of teamworking, this should have been reflected in the implementation strategy and the training programmes offered by the organisation. He believes if this approach was taken it would have given an immediate improvement to teamworking:

*“I don’t think anywhere near enough team training has been given, the whole issue wasn’t thought through enough. Management should have considered how teamworking was going to be implemented by offering specific training that was suited to this facility not just implement a model from somewhere else and try to fit us into it, especially without preparing us. I don’t think the problem has been addressed fully since day one... Specific training applicable to this factory and its unique teamworking requirements would have helped a great deal I think, it would have given people a lot more of an idea and made teamworking work better than it currently does now.”*

(TRAE-M1)

This candid opinion was offered by another subject:

*“They need to design a bespoke training package for individual teams that is suited to what we do here, our culture and the way that we actually conduct ourselves in teams. A team training package bought from some specialists simply isn’t going to work. Every factory is unique and ours is a complicated business which makes it even more unique.”*

(BDDAE-M1)

This subject also reinforced the lack of training in his comments:

*“The training off the guys on the shop floor is the only real team training you get so it’s the best currently on offer. Luckily, people are happy to share their knowledge. If they weren’t it would be a different story. I think at least we have a good system for team training within our team for learning the job, we learn off one another. I think the company needs to look at this and consider the whole team training issue to be honest. Training could be done better, there is no formal way of the more experienced fitters passing on what they know, its ok but defiantly could be better overall.”*

(SAAE-M1)

The subject was also critical of the organisations team training strategy commenting that team training would have been advantageous during the introduction of teamworking, commenting:

*“Proper team training would have helped during the introduction of teamworking as it did take time to get used to it as it was all new to us, training would have helped us be more prepared for it defiantly! I think if we had team training when we started teamworking here*



*the teams would work better than they currently do, simple as... The company needs to put a lot more focus on it, rather than just basically ignoring it and choosing to forget."*

(SAAE-M2)

This subject is sceptical if team training can now actually benefit the organisation, commenting:

*"Team training here is non-existent, I'm not sure what training suited to this place you could get, no, sometimes, it's just a matter of working with other people, getting on with a person, that's how you learn. I think it's just too late for to go there now."*

(PRATAE-M2)

A further subject adds his thoughts on the initial training content, of which he seemed to be rather sceptical; he goes on to question the pledges given on training and the continuity of the programme after the initial session was delivered:

*"When I first started, I had never been in a team before so didn't know what to do, I didn't even know this place run on teams, to be honest I was a little anxious, I've picked it up now, but some introductory training would defiantly have helped me to settle in quicker. The company would have benefitted a lot sooner from giving me the necessary training, it really is a win-win situation for all stakeholders. I will add that team training on the job is very good as the guys are very helpful, especially when you first start; they teach you how the teamworking thing works... As for the team roles, I've personally had one-hour teamworking "Starpoint" training since I started, and I did have one teamworking session that involved where the company wants teamworking to go and where we are now which was wishy-washy... This was supposed to be rolled out to everyone in the team which was about a year and a half ago, nothing at all has happened. I think we were supposed to have two or three sessions."*

(RAE-M1)

The following perspective gives an overview of the one-off team training event held offsite and questions its effectiveness. There are also concerns raised around its continuity and the lack of additional training to follow up on the initial session that was never forthcoming:

*"I did do team training a few years ago, to be honest it wasn't the best, it was a quick afternoon session that was all, the company had a teamworking expert over from the States, but I can't really remember what we actually done. It didn't make a lasting impression on me and didn't change the way I work... It was a flash in the pan which was never followed up with anything else."*

(KAE-M1)

Another subject share's a similar opinion:



*"I think the little bit of team training was a complete waste of time; there were a few things they told us we would never use... It wasn't all bad though; some of it was ok and did make a difference... If we were asked at the time we would have given constructive feedback... This would have helped tailor the training to our needs... It's a shame really; they didn't ask or continue to do it. Any team training would have to be specific to this industry not a standard package, this simply wouldn't be suitable and a waste of time and money."*

(FEAAE-M1)

Another perspective is offered from a long serving employee who has been working in a team environment since its introduction at the facility. He also did not regard the initial team training sessions to be of any value like the previously quoted subject. During interview, he declined any further training unless it was mandatory as he felt that he had been operating in a team for such a prolonged period that he would not really gain from receiving any. He did state that his thoughts were motivated from his personal perspective and were influenced by his relatively extensive experience of working in a team. When he did take the time to consider the other team members he conceded that many of his colleagues could indeed benefit from some team training:

*"I had the team training down the Village [hotel] a few years ago, in my opinion it didn't really achieve much... Most of us felt it was a waste of time and money partly because it was so short and partly because it was only a one-off occasion... I don't think I would really benefit from training on teamworking now because I've been doing it for nearly twenty years and I pretty much know what's what... This is only my own opinion; I think some of the less experienced guys in my team would feel differently to me and they would possibly benefit."*

(BDDAE-M1)

It does seem a little concerning to many of the subjects that there was only one single occasion where the teams have been delivered exclusive team training over a total period of over twenty years since the organisation introduced the system of teamworking. A worthwhile point made by one subject was that in the past five years the company has grown significantly, during this time many new employees had been employed. Due to the considerable period that has elapsed since any training has been given many employees were correct in their original communications when they stated they had received no training whatsoever during their time working at the company. Out of the population of longer serving employees who had received the limited training the Company 'A' previously offered it seems that over the past five years major changes have occurred in the organisation's working practices, strategy, employees, products and management structure and teams. Due to this, the very fabric of the organisation and the teamworking dynamics had significantly changed in a relatively brief period. These changes are so comprehensive that the training some individuals have



undertaken was now considered obsolete. Indeed, from the dialogue received during the interviews it was clear that the training wasn't ample to properly equip team members with the appropriate teamworking tools when administered in the first place. For this reason, the training did not really have any influence on how teamworking was practiced. Neither did it change individual's mind-sets or have any legacy. The opinion of subjects on undergoing updated team training was quite varied. Some individuals welcomed it while others said they were content with the current situation:

*"No, I've never had any team training at all during my time working here. All the guys trained me when I started I learned off others on the job. We have a good system of cross-training for the job, we learn off one another, there is also a financial incentive too once we are competent, suppose that helps... Now I'm comfortable working in a team environment but I must add that it was a little strange when I first started here... I would be keen to do some team training and I know a lot of the other guys would also welcome it. I think both the new guys who were taken on in the last few years and most of the longer serving employees would defiantly see value in it."*

(RAE-M1)

Another subject added:

*"Regarding team training I had a little some years ago, it was ok, nothing to demanding just a short afternoon course down a local hotel. Did I benefit? I'm not sure as I've been in a team for a long time now and it's become second nature to me, plus I can't really remember what the course covered so hard for me to comment properly... Honestly, if I was offered training today I'm not sure what I would gain from it... If I was offered some then I wouldn't turn it down and I don't think many of the guys would either. I know they would give it a go... Honestly, I love working as part of a team and I think it's in all our interests to make sure that teamworking here succeeds. So, anything that helps us improve teamworking would be appreciated on the whole and I'm sure well attended."*

(SAAE-M1)

This statement illustrates that there is a strong appetite to receive relevant team training, this opinion was evident in practically everyone who participated in the interview process. Almost all agreed that this would help them get more value out of teamworking. This would in-turn allow the organisation to receive increased engagement from team members and gain greater benefit out of the adopted management method, thereby maximizing returns. Many subjects believe that additional training would help them to better manage the many unknowns they currently experience daily throughout their working lives. Training would also help them to act more appropriately when faced with unfamiliar challenges, which they currently don't feel confident tackling. The gap in knowledge created because of little or no



training has left members deficient in the necessary skills needed to manage the everyday team-based situations they face. Effective training tailored to individual team's needs would provide members with the tools they require to make teamworking more effective, further enhancing the experience for all stakeholders. The concern at the lack of such training is clearly illustrated by the following individual who commented:

*"No, I haven't had any team training since I started here, and I do think it would be really beneficial for me to have some. It would defiantly help in those situations where I really don't know what to do. The kind of situations that you don't frequently come across, it is these ones where I am still learning how to react... With proper training, I feel that I would be better equipped to deal with tricky situations. It's not just me I'm sure many of the boys would welcome training; it is a common complaint amongst the shop floor that we have never had any decent team training... I think it would defiantly improve teamworking and make it much more effective. Everyone will gain from it."*

(DVBAE-M1)

This subject added:

*"No, I haven't done much with team training; I think there was one time, but I can't even remember what that was now, so guess it wasn't that good. I think we did an hour and that's all I've have had in eighteen months, so I think it could be a lot better... I picked up the job by cross-training with the team that was the only method available. It would help people quite a lot I think to make the most of teamworking."*

(QCAE-F1)

Another subject alluded that the lack of training could be responsible for creating a culture where the un-trained are not hardly prepared to work, can often be found featherbedding and lack respect for others compared to the population that did receive some team training. This individual also believes the fact that some people worked under Supervisors in the former regime and this could also be contributory:

*"It's all died down since the time we did our team training, so obviously now you get the youngsters who are coming through who haven't got the same outlook as us because they haven't had any training. It's like there is a culture where people want to take the mick, can be bothered to work, no respect for people, not being harsh on the youngsters but they never worked under Supervisors so don't know the alternative, they think that they can do what they want. They are not all the same, but the majority are... Any team training done now is on-the-job, that's the only training that I seem to see that gets done... As for specific training that is relevant to everyday teamworking problems, then no, there is none whatsoever, it would help people quite a lot I think if we did get some."*

(SAAE-M2)

The following subject is relatively new at the company having been employed within the last five years. He describes at first, he had no idea the facility operated using teams, stating it was not even discussed during his induction week. He only found out when he started



working on the shop floor. He then had to learn how to operate within a team from his colleagues. It seems especially hard for this individual as in his previous job he was managed by a Supervisor, the team methodology was totally new to him. In his previous role, he did the same function day-in-day-out, with no variables. He acknowledges that being in a team makes his job more interesting and he is content. He would like to see training given to all the teams and thinks that the company should add some “*team awareness*” to the induction curriculum, this way new employees would know what a little of what to expect and not be caught “*cold*” when initially starting work at the company:

*“Training, no, never had any! When I started here, I was just told to get on with it; I didn’t even know that the place was working in teams until I went to my work area... It is very different here to what I’m used to as I’m from an industry that had Supervisors, they used to take care of all the admin things, and I just used to do my job... Teamworking is good from that perspective as I defiantly have much more variation in my working day... When I first started, I think because of my background of working under a Supervisor I did find the teamworking thing very strange, it not so bad now but I still can’t really get over it here compared to my other jobs.... Going back to training, I learned the job off the other guys on the section by cross-training and shadowing them. We have a good system of on the job training here we use a matrix, so we know exactly what we can do and what we need to learn... Yes, proper training would help us to work much better as a team I think. It would also help with team conflicts and other awkward situations as well, the unfamiliar things. I think we all need some, I hope I don’t sound cynical, but would the company be prepared to pay for it? If they were then I think we could really benefit, it would help me and the guys out a lot.... I also think all new starters should be taught about teamworking during their induction week before they go onto the shop floor. That way they would know what to expect and at least, have some idea about working in a team and a little bit of knowledge about the “Starpoint” roles and how teams operate. Like I said before, when I first started here I didn’t have a clue and I think putting new starters in the deep end is not really the right way to do things. I really think it would be a great idea and would be fully supported by the shop guys. I personally think it is essential to effective teamworking.”*

(FMAAE-M1)

Yet another subject gave a particularly positive perspective on receiving additional team training:

*“I’m very enthusiastic about some team training; I really think it would be a great idea. I know I would certainly benefit from some... Personally, I think it would be better if our training department did it in-house, that way I think more people would feel more comfortable. Their familiarity with the training folks would make people more likely to say what their training needs are and what they want to gain from it, increasing the benefits and saving time... I’m not sure everyone would agree with this perspective tho, some would feel more comfortable talking to strangers and others would really care who trained them... As everyone’s training needs are different, I think some general team training would be a good starting point. This is just my personal view on it, everyone is different at the end of the day, it would be down to the company to decide the training strategy.”*

(PRATAE-M1)





This subject shared the enthusiasm, adding:

*“Training, yes please I’m well up for some! It would defiantly be a good idea; everyone would reap some reward from it... Of course, you will get the grumpy ones who don’t want to take part, but they are a small minority, if they must do it then they will not really have the choice, I know the rest will gladly embrace it!”*

(BDDAE-M1)

Another supporter of team training being delivered comments:

*“Yes, I think some team training would be very good to have, I don’t think we have had anywhere nearly enough... There is a lot to know about working in a team, a lot we don’t know about... If we are to progress to be high performing teams which is the proposal, then I think we need proper training to give us the necessary skills to be able to reach the goal. It would really be a good thing and would be welcomed with open arms, we really need this to happen.”*

(FMAAE-M1)

This subject commented that every team is unique and interestingly discussed how everyone’s needs are different:

*“The training we did have years ago, wasn’t very hands on. I think teams need to be worked with individually as opposed to having ten teams in a room and one person talking. Every team is different, and it needs to be run different, so I don’t think that training worked really, I suppose there were some positives to take out of it but not a great amount, the approach needs to be personalised I think is the best way to do it... They should look at each team as an individual team and find out what makes that team work, look at the strengths and weaknesses and help them develop the team further how to deal with things how to manage things.”*

(FEAAE-M1)

One subject commented that the middle management level receives no training either, so he questions how they can be expected to work with the teams effectively if they don’t possess the necessary skills to do so:

*“Again, an observation we recruit people into the Manager function but I’m not aware of there being any first line management training for middle managers or any first line coaching, other than the mentor piece which is from advice given from their own business leader function. I think it’s pretty much a policy of lift them up and drop them in to it and see how they get on so. It has a pure operational focus to it rather than a wider business focus to it, there’s a lot more to the role I think than management and just operations. There’s the finance aspect to it, the quality aspect to it, the compliance function to it. If we as a business are trying to grow senior business leaders out of junior business leaders, then if all they have got is the senior business leader’s behaviour to go on then they are extremely limited based on the competence and skills set of their senior business leader. There should be umm a wider first line management training piece, they may well have some training, I just don’t observe it to be in place.”*

(QCAE-M1)





Interestingly, the next subject quoted was unique amongst the population of interviewees as he was a member of the company's former Teamworking Strategy Committee. This body was a sixteen-member committee that consisted of eight production area staff and eight management grade employees who were solely responsible for developing a strategy for further team autonomy at Company 'A'. The principle aim of the committee was to provide a "*roadmap*" of incremental steps that would serve to develop teamworking at the facility to a point where every team is classed as mature with the associated sustainable high performance.

In this interview, it appears from some of the comments received that the committee was held in high regard and enjoyed a lot of support from a wide cross-section of employees. In total, it run for a period of approximately three years, it is however currently in a state of adjournment, and has been so for quite a few months. The subject indicated that there is some perplexity amongst employees why the committee has been suspended. Confusion is present because there has been no formal communication given by Company 'A' of the reason for suspension. This subject indicated that some production-based employees remain doubtful if the committee will ever be resurrected. They have also speculated why it has been chastised with many believing that the company now wants to curtail the advance of teamworking.

In his position of a committee member the following subject was privy to the latest teamworking initiatives that were proposed for introduction to the teamworking population once they had been through a successful trial period. It is worth noting that although such information was not proprietary, it was generally not disclosed to the entire workforce. This was to avoid any misrepresentation or unhealthy rumours developing prior to their launch into mainstream teamworking. Speculation and the often-divisive factory "*grapevine*" can lead to misinformation and unsubstantiated rumours developing it is common for gossip to circulate within departments (Chartered Institute of Personnel and Development, 2007), which can have a negative effect on moral. Hence, the reason that organisations tend to keep any new developments undisclosed prior to their launch.

This subject recalled there were plans for some specific training on conflict resolution, but he is unsure if it was ever delivered any of the "*pilot*" teams. The committee recruited



these from the pool of existing teams to trial innovative ideas to determine if they would aid more efficient teamworking or not before they were adopted into the mainstream teams. It seems that these pioneering teams have been allowed to return to their former roles with the “pilot” aspect also now in a state of suspension:

*“I was a member of the Teamworking Strategy Committee; I know in some of the meetings we were talking about developing a module on conflict resolution for training purposes. I didn’t get the chance to see it so can’t comment what was in it... There were a couple of the teams involved in testing out new initiatives that the committee wanted to try, we called these pilot teams, I’m not sure if this did get rolled out to any of them, I’m not sure if that ever happened... I think the furthest they got was to have a sort of ‘meet and greet’ meeting and that was it. It then died a death, bit like the Teamworking Strategy Committee that done the same. I don’t know what the training department has been doing but it seems they were always too busy to have anything to do with teamworking. There was talk of them developing teamworking courses, but in the end, they didn’t have the time to actually present them out, not even to the pilot teams, that’s when apathy creeps in, you wonder why you’re wasting your time with all this.”*

(PIHCAE-M2)

This concludes the analysis of findings on the first emergent theme, there will be further discussion on the matter in chapter five. The perspectives offered were very thought provoking and interesting to read as they emerged during the analysis of the transcripts. As can be seen they offer detailed account of the production-based employee’s true feelings on team training. The analysis of the findings associated with the second emergent theme “*the significance of established roles and responsibilities in teamworking*” will now be examined.

#### **4.4.3 Emergent Theme Two ‘The Significance of Established Roles and Responsibilities to Teamworking’**

The subject of team roles and responsibilities was a found to be another lengthy discussion point during the interviews prompted by the interview guide. For this reason, it only seemed natural that it emerged as a strongly prominent theme during the thematic analysis of the collected data. It was given the title of “*the significance of established roles and responsibilities to teamworking*” the title is a simple yet precise description for the content of the emergent theme.

The company identifies the team roles and responsibilities related to teamworking as “*Starpoint*” roles, there are five such roles in almost every team. The “*Starpoint*” roles were proposed by the company many years ago, when teamworking was first launched. The actual length of time team members applies to participating in each role is determined locally by the



teams themselves. The five roles include a production “*Starpoint*” who is responsible for the input and output of work on the section, allocating the labour resources and general running of the section usually for a period of a week or two at most. A quality “*Starpoint*” is responsible for everyday section quality, making sure calibrated items are within inspection periods, maintaining housekeeping and raising any quality concerns with management. Other responsibilities also include conducting auditing other sections, participating in quality related investigations as well as attending the site wide quality meeting. Additionally, there is a EHS “*Starpoint*” who is responsible for section safety, reporting safety concerns, assisting in compiling risk assessments and attending the site safety meetings. There is a lean “*Starpoint*” to aid productivity, participate in improvement projects and assist with six sigma action workouts. Finally, a tooling “*Starpoint*” who is responsible for the compliance of specialist apparatus and tools on the section, help sourcing replacements if required and ensuring all appropriate tooling is available as well as verify they are in serviceable condition and fit for purpose and they are accounted for at the start and end of every shift.

Not every team has to participate in all five roles, exceptions are allowed in teams where there are three members or less. Such teams will not assume the lean “*Starpoint*” but will participate in all the other roles as they are classified as critical. It is the company’s expectation that every team member will participate in the “*Starpoint*” roles and endeavour to complete what is expected in the most efficient manner possible. Therefore, every team member must embrace the “*Starpoint*” system as they are an essential component of the production area personnel’s grade. The final condition of being a “*Starpoint*” is to act as an intermediary for any role related communication. The expectation is to feedback any relevant information to the wider team during the weekly team meeting. This ensures that everyone is aware of the latest developments.

During interview subjects were asked broad questions around their thoughts on the various team roles and responsibilities. Once they were in their stride the examination attempted to inquire deeper to fully explore their true feelings on the subject. The researcher probed their levels of enthusiasm for participating in the roles and asked them to expand on their past experiences and how they feel when performing the duties. Further exploration discussed what they liked and disliked about the roles and any difficulties they had



experienced. From the transcription, it seemed evident that most subjects were fully engaged in the team roles and enjoyed playing their part in them. Many displayed their eagerness to participate in every one of them and some even commented that they looked forward to taking their turn. One subject clearly displays his and the team's enthusiasm for participation. Interestingly, he also alludes to people's natural ability to perform some of the roles as opposed to others, commenting:

*"I like participating in all the team "Starpoint" roles so do most of the other guys... You obviously get the odd one who doesn't want to do it, but everyone does them eventually. That's teamworking I think yeah, the "Starpoint" roles work well mostly, the roles are fit for what needs to be done by the teams. They are dished out on a rota basis we all participate and do our turn, so everyone gets a turn of each... There does seem to be some guys that naturally fit into some of the "Starpoint" roles. It's easy to tell them as they are more capable at performing these roles than others. It's apparent in the quality of their feedback and the way they perform when doing the roles. I suppose this is due to how interested they are in the actual role itself. This is the useful thing about being part of a large team; you get many different personalities and lots of different skills. It's a positive thing that we have a pool of people to choose from to do "Starpoints" unlike the smaller teams who sometimes struggle to find someone who performs the roles effectively... Before coming to final assembly, I worked in a smaller team, there, the frequency of the roles was a lot higher, it felt like I was consistently doing one or another... Working in a team is great I like being my own boss but I do think that sometimes we spend too much time doing some of the team roles rather than producing engines. Its engines out of the door that pays the bills and we need to make time for that to."*

(FMAAE-M2)

Another subject displays his affinity to the "Starpoint" roles:

*"Yes, I really like doing all the "Starpoint" roles especially production, I like having a say in the way things are run here... Some of the boys like doing some of them more than others, but as a team we get on with it and take our turn, not everyone wants to get involved, but everyone does it, maybe a little reluctantly but we all do them in the end... We all know we must do them and when our time comes, we do. We have been doing this now for a long time now, we see it as part of the job."*

(BDDAE-F1)

Examination of the transcriptions also revealed that the team communication method was effective and overall well practiced throughout the facility. During interviewing this subject was complimentary of his colleague's efforts:

*"The communication from the allocator and other "Starpoints" are always very good, fair play everyone does a good job up here on Final Assembly. We set aside time in the team meeting to talk about each one, so we are all up-to-date on the latest developments especially Quality and EHS. People are very keen to know what is going on in the base as these both affect our future. We all need to know when we are doing good, bad or ok, so we can all work*



*together and do our best to change things if that's what's needed, that's why efficient communication is so important."*

(PIHCAE-M1)

Another subject is equally enthusiastic about the method of communications in his team, interestingly he describes his team as small but close which he hints aids cohesion:

*"The communication in my team is very good we all know what's going on and what we are supposed to be doing. I think the size of our team helps because it's fairly small, it's like, you know we have a pretty good understanding of each other, my team likes to participate, we all share the team roles we all pull together as we are close, and we head in the same direction to make it happen."*

(SAAE-M2)

It did become apparent from some subjects after further probing and exploration below the surface of the initial enthusiasm that not everything was as content as initially perceived within the roles. The deeper dialogue did reveal there was an issue in some areas with the actual infrastructure that underpins some of the roles. Albeit nothing that can be considered major, there were some concerns raised about the frequency of the Quality and EHS meetings:

*"The roles are relatively clearly defined from our point-of-view but the Quality and Safety "Starpoint" meetings are a little hit and miss; it gets on our nerves to be honest. The meetings are also not held regular and the roles are intermittently promoted by the company. They are working but they could be a lot better."*

(DVBAE-M2)

This subject described how in some areas the teams experience a push for engagement of the roles "now and again" but these efforts then dissipate after a few months:

*"The roles work well if they are actively being practiced. Look at the EHS and Quality meetings, these are often allowed to lapse, they don't happen, we stop going then they get re-invigorated months later, this has happened again and again over the years."*

(FMAAE-M2)

The frustration of this subject is easy to see:

*"The Quality and Safety "Starpoint" meetings are a little bit stop and start, they are often cancelled at short notice and sometimes there are no meetings at all for a prolonged period... Another recent change is the length of the meetings; they have been cut down from an hour to just half now to save money. I don't think this is long enough to get through everything. The business needs to decide once and for all what the meeting frequency is and for how long they should run for and then keep to it. This will avoid any more confusion.... At the end of*



*the day if the company doesn't seem fully committed to the roles how do they expect the shop floor teams to be?"*

(RAE-M1)

Further evidence is found includes:

*"Look at the EHS and Quality meetings, these are often allowed to lapse... We stop going then they get re-invigorated months later, this has happened again and again over the years. It's not acceptable to just switch them on and off all the time."*

(KAE-M2)

Another subject's comments provide reinforcement for the previous statement and is particularly critical in his comments:

*"The quality meeting tends to have patterns, it's on it's off, it's on it's off, I give the quality feedback to my team, the information is only given to the Quality "Starpoints" and only once a month, that's if the meetings are on. I think they should be weekly, so we can keep on top of it more. And, the health and safety one as well I don't think they have meetings regular enough either. They have them once a month as well, which is not enough for us as so much happens in that one month that any issues you want to raise you usually forget about as it's so long between meetings. They don't give us enough time for the meetings either as they are now restricted to just half hour, that's not long enough."*

(DVBAE-M2)

This subject is equally as disapproving:

*"The quality meeting tends to have unpredictable patterns, it's on it's off, it's on it's off... The health and safety one is the same they don't have meetings regular enough either... The lack of meetings is a bone of contention; they are often cancelled at short notice and then left for weeks before we have another one, either the company wants the roles or not, if they don't then come out and state that so we all know where we stand. They really need to decide otherwise they will lose the engagement of the teams which is what's happening right now."*

(BDDAE-F1)

The same individual complained about the amount of time that is spent performing the production "Starpoint". He believes the allocator attends far too many meetings and is further frustrated that company sometimes criticises the number of indirect hours booked<sup>15</sup>. Further comments illustrate he believes there is not enough time allowed by the company for team members to be effective in the "Starpoint" roles, this concurs with previous arguments, he also disclosed that he feels the roles should be treated the same with equal importance as currently he finds the status of a little indifferent:

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<sup>15</sup> Indirect hours are classed as downtime and cannot be billed to a customer; therefore, they are direct costs to the organisation.





*"I think too much time is given to the Production "Starpoint", when you're doing allocation you need to be booking "Starpoint" which is downtime. I think there are too many meetings going on, you end up booking a lot of time to "Starpoint", sometimes you can book up to two hours a shift. Then you have the company blabbing on about booking indirect hours, but they set up all the meetings, which as allocator you must attend, and yet they want us to cut down on indirect hours. It should be a simple meeting in the morning and that's it. I think it's a pity more time isn't given to the other "Starpoint" roles."*

(PIHCAE-M2)

This subject offer's support for the previous comments that question the time spent executing the role of production "Starpoint":

*"Take the Production "Starpoint" for instance you often hear people say, I get paid to be a fitter not paid to do all this allocating lark and stuff. This is somebody else's job I'm a fitter. Why am I doing this I should be building modules or engines not spending half my day running around telling other people what to do, looking for paperwork and other things. As an allocator, half of the time you don't get to do any work on an engine. You're too busy running around, going to meetings, chasing bits to keep somebody else going which, it's a waste of a basic guy. Not everyone shares this belief but sometimes I think it's gone a bit too far and too much time is spent allocating and looking after everyone else's problems. It seems sometimes that the guy whose allocator ends up being the general gofer for the rest of the team for a week."*

(TRA-E-M1)

Obviously, the execution of the "Starpoint" roles in a proper manner is very important to the subjects and their colleagues. They are considered one of the foundations of teamworking at the facility although the evidence suggests they are not consistently practiced. The length of the meetings is questioned some are too long and some have been cut to such an extent they are ineffective as team representatives no longer have enough time for all issues to be discussed. A small minority of the subjects also commented that they thought the Quality and EHS roles particularly lacked direction or clear definition of what the actual responsibilities should be. The teams seemed to find this frustrating and the evidence suggests there is possible apathy developing in some teams. One subject alluded to the roles as "*a little bit of a waste of time*", others indicated unless the company wanted to fully embrace the roles and commit time and resource to them they should be dis-continued, this subject commented:

*"Some of the team members do get a little bit frustrated on occasions with the Quality and EHS roles. This is because sometimes there are no meetings for weeks... Take EHS for instance when an audit is coming up it seems that we have meeting after meeting, then when the audit is complete, the ball is dropped, the meetings stop.... It is still important for us to have regular EHS and Quality feedback and we need proper forums where we can express our concerns. The shop guys just want consistency and not the current situation where the*





*roles are considered by many to be simply fads, picked up and dropped by the company depending on the flavour of the month."*

(PRATAE-M1)

Another offered a similar perspective:

*"Regarding EHS, I feel a bit cut out of the loop for that one, not everybody attends the meetings I haven't been to one for a long time and when I did go to them it was, not very good, just get told a little bits and pieces, it was just a waste of time to be honest... Then there is the quality one once a month, I think it could be more frequent then once a month, for quality of all things, I think that should be done weekly... A lot happens in a month, too much to cover in half hour so you're never going to get through it all."*

(BDDAE-M1)

This subject also concurred:

*"The allocation role works well that umm, everyone who takes a turn at that role, they seem to do a good job like... Here is an example, we have a team meeting every Friday there is some structure that we follow. During the meeting, we go through all the "Starpoint" feedback, when it comes to certain ones there is usually no meeting, no meeting for weeks like, so we don't know what's going in these roles, quality and health and safety stand out; the "Starpoint" usually say simply 'no meeting', so people can't be bothered."*

(SAAE-M1)

The following subject suggests that team members are no longer really interested in participating in the "Starpoint" roles as they feel they are no longer value added:

*"The other "Starpoints" were at first getting people interested before the company kept changing them now people really don't want to do them, they don't want to be involved like... It's just a waste of time, isn't it?"*

(BDDAE-F1)

A further consideration is the "Starpoint" roles are very long standing and have not changed during the past twenty years apart from the lean "Starpoint" that was added in the late 1990's. There are suggestions the roles could be revitalised as some subjects questioned the relevance of the present structure:

*"Although I always play my part in the team roles and I do enjoy being a team member actively participating in the "Starpoints", I will say that some of them are a little bit dated, they do need looking at. Don't get me wrong there is always a place for Quality, EHS and Production they are essential but I'm not so sure about the Tooling and Lean ones... Our team hasn't had anything to do with Lean for years, there is a whole Six Sigma department to do Lean! And Tooling? Well apart from the tooling checklist which anyone can do then we don't really get involved in that one either."*

(KAE-M1)

This subject also questions the relevancy:



*“Out of all the “Starpoint” roles production is the one that is the most effective from a teamworking point-of-view. Some of the other roles really do need to move up with the times; the two that stand out are Tooling and Lean. They just don’t seem relevant to us anymore, I can’t remember the last time we have a Tooling or Lean meeting... Thinking about it the Quality and Safety ones could also do with a refresh. I think this should be done with the help of the teams. As by taking our opinions into account then will we be more enthusiastic about taking part in them again.”*

(FMAAE-M1)

The tooling “Starpoint” seems to be particularly poorly supported:

*“The one that totally isn’t working is the tooling “Starpoint”; there is never any budget so if you got any issues on tooling you can’t buy the tool so it’s effectively a redundant role.”*

(PRATAE-M1)

Another subject questioned the company’s commitment to the “Starpoint” regime, he believes that the roles do not really have any accountability and therefore they are not properly practiced or taken very seriously by the teams:

*“I think there is a perception that the “Starpoint” roles are a something and nothing role within teams because it’s not being done properly, so if it’s not being done properly what is the point of even doing it... Again, this is linked to if you’re not doing properly defined roles and responsibilities and there’s no accountability for it then over time. It should come as no surprise it doesn’t get done or if it is done its only paid lip service to and not taken seriously... This isn’t everyone, not all teams are the same, some are better than others.”*

(QCAE-M1)

Minor evidence was found that some team members do not want to participate in the roles at all:

*“There is a small minority who don’t want to do any of the “Starpoint” roles, they believe they should be fitters not office staff... But as we are in teams then we must stick together and make sure everyone takes their turn, there is no option to not participate, it would be very unfair on the others. But in teamworking everyone shares responsibility for the “Starpoint” roles, not doing it isn’t an option, if it was a choice I’m sure some people would duck out of it but as it stands it’s not a choice and we all have to do it, that’s the fairest way to.”*

(FMAAE-M2)

The following commentary offer’s further support:

*“Some of the guys don’t want to do the “Starpoint” roles they just want to turn spanners be fitters they don’t want the hassle of being responsible for things other than their immediate job.”*

(PRATAE-M2)



Other prominent comments found include how the company suddenly removed the former middle management tier and replaced them with teams literally overnight. No training or explanation were given of how teams function or what members must do with their new-found authority:

*“The supervisors disappeared overnight, one day they were here the next they were either laid off or had a choice to work on the tools or do something else. Suddenly we were running things and we didn’t know what to do, it was a crazy decision just to remove them thinking back. No thought put into it, messed the place up for a while.”*

(BDDAE-M1)

Again, this subject concurred:

*“We went to teamworking years ago, it wasn’t brought in well, it was rushed in to please the big bosses in the states [USA]. No transition period was given it was just brought in rushed, not good way to do it, the business suffered for years until they brought back in a bit more control. The power went to the team’s heads it was abused in the beginning. Then the company brought in the middle managers to get some control back. Things did get a little better then.”*

(RAE-M1)

Another offered support:

*“When teamworking first started, it was a case of ‘the lunatics running the asylum’ until management got a bit more of a grip. People were at it all over the place. It wasn’t thought through properly, granted it’s a lot better now but it went on for a long-time, it must have cost this place millions.”*

(PRATAE-M1)

This concludes the analysis of findings that concentrate on the second emergent theme, as previously stated further exploration of this matter occurs in chapter five. The perspectives given by the subjects were once again fascinating and detailed accounts a by-product of using the qualitative semi-structured interview approach. Next the analysis of the findings associated with emergent theme three “*the use of incentives to enhance team performance*” will now be presented.

#### **4.4.4 Emergent Theme Three ‘The Use of Incentives to Enhance Team Performance’**

During the interviews, the role of incentives to enhance team productivity was probed and produced healthy dialogue. When the transcriptions were subjected to thematic analysis some strong and fervent perspectives offered by many subjects were exposed. This emergent



theme was given the self-explanatory title of “*the use of incentives to enhance team performance.*”

It quickly became evident there are currently no “*official*” incentive schemes operating at Company ‘A’. Evidence of a former scheme open to all employees was found that ran approximately fifteen years ago. One subject explained how this was not a company scheme, but a national scheme set up by the government and administered by the Inland Revenue, known as Profit Related Pay (PRP)<sup>16</sup>. The scheme lasted four years and comments suggest it was very popular with the organisation exceeding the stated profit target every single year which effectively resulted in the incentive being paid. Most subjects agree the scheme had a positive effect on productivity and improved employee morale. Subjects indicated employees became more productive and efficient in the execution of their duties and they strived to meet and exceed targets, were more vigilant about shop damage losses and everyone seemed to be engaged and focused in the effort to exceed the set target, this subject favourably commented:

*“Incentives I think would make people work harder, defiantly, I remember the old PRP scheme and it worked great. We hit our target every year that run. If there was such a scheme launched it should be equally applied to all employees no matter where in the business their job is based, by everyone I mean, the apprentices, shop floor, offices, the management team, even the MD. This is because everyone has an equal stake in our future, the success of this plant is very important to us all and the local economy.”*

(KAE-M2)

Another shared the opinion such schemes are beneficial:

*“I think giving individual’s rewards would be ok, I suppose, if everyone has a fair crack at getting one. It could also be a companywide scheme where everyone gets a share of a reward, either one or the other, the two even...It could be money, days out you know, there is lots of things that could be used.”*

(SAAE-M2)

This subject emphasised incentive schemes should be available to all employees no matter how humble or senior their position is:

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<sup>16</sup> Profit Related Pay (PRP) was an all employee incentive scheme launched in 1987 by the then UK Conservative Government. It involved employees staking a portion of their net take home pay in exchange for their respective companies reaching or exceeding a stated profit goal. It effectively linked employees pay to the profitability of the company for which they worked. If the stated profit target was met or exceeded then a bonus payment would be made by the Inland Revenue in the form of an additional tax-free payment every fiscal quarter with the possibility of an annual one-off bonus of up to a maximum of £4000 pounds’ sterling or 20% of total basic pay sterling, any amount over this was subject to income tax.



*“If it was brought in then either, it should be given to everybody who works here, or no one gets it... By everybody I mean from the girl in the office to the guy building engines, the management team, everyone. Also, everyone gets the same amount no one has any more than the next person.”*

(KAE-M1)

It is obvious when assessing the transcripts that out of the population of employees who did experience the former PRP scheme most would support the introduction of something similar. This is not a decisive illustration of opinion as not everyone interviewed benefited from the former scheme. All the enthusiasm found cannot conceal the fact that incentive schemes can be a little controversial especially in the safety-critical aerospace industry because of human factors and other phenomena that are not relevant to other industries. The industry because of its operations is a heavily regulated, so-much-so that every process must follow precise practices and procedures as outline by the Original Equipment Manufacturer (OEM). It is a pre-condition of the two principal governing regulators, the E.U. based European Aviation Safety Administration (EASA) and the U.S. Federal Aviation Authority (FAA) that maintenance organisations must follow set rules, if they fail to do so their license is revoked, and they cannot continue to operate. Therefore, the present processes and procedures are relatively fixed and cannot be easily changed to give a net increase in productivity.

It is also worth mentioning that the organisation is heavily unionised with a large majority of production based hourly employees are enrolled as members of the Unite trade union. To develop an effective incentive scheme that is inclusive to all employees the site's management would have to work in partnership with the union to gain approve for any scheme. Although this is a barrier to simple implementation it is not an unresolvable issue. Due to these two potential issues, this makes any increases in productivity via an incentive mechanism a more complex affair to achieve in the aerospace industry as opposed to other industries that are less regulated or ones that do not have a union presence. There is however room for manoeuvre and through the right implementation by succinct consultation and planning, the launch of such a scheme is achievable. Although it goes without saying it must be done incrementally, carefully and compliantly. It must also have the full backing of the production based hourly employees, the union and the organisation's management team. During the interviews, the following subject was very enthusiastic about their potential of incentives to have a significant effect on productivity commenting:



*“A new incentive scheme would be good for the entire workforce. I think it would lift moral substantially and make a lot of people work harder to get more engines out. I think everyone would become more aware of waste and less tolerant of people who were don’t pull their weight or lazy. As these things, would affect our bonus so everyone would push each another on. I really can’t see any bad points.”*

(KAE-M2)

Another subject was equally enthusiastic:

*“Bring it on; I think our team would love to have an incentive scheme introduced. Final build is the last section in process and we all know what we are doing, there is a saying up here ‘give us the bits and we’ll build em’. The only thing that will stop us getting a bonus every quarter is if the material is available and kitting and sub-assembly can keep up with us!”*

(RAE-M2)

This subjects strongly hints not everyone would welcome the introduction of an incentive scheme, but believe overall a majority would embrace it:

*“Obviously, you will always have the element that will say ‘oh, I don’t want anything off them [REDACTED]’<sup>17</sup> and the rest of it, but yeah I think overall it would be welcomed!”*

(TRAE-M2)

Another subject commented that one possible drawback that must be considered is lazy employees. If a universal scheme was implemented such employees would be entitled to a share of an incentive. There could lead to friction between them and their more energetic colleagues who they could consider to be not contributing to achieving a reward and therefore possibly should not be receiving a share. There could be positive situations where enthusiastic team members will try to encourage the less motivated employees. This could an advantageous by-product of an incentive scheme, alternatively, it could result in a situation of conflict with the associated tension produce a negative impact on team moral. This subject recommends caution to be applied as the results are far from predictable:

*“My only problem with a companywide scheme is with the people who don’t put much effort in, you know the lazy ones who would also benefit on the back of the harder workers. I’m not sure that is fair on the others. This could lead to problems with the team members, it could make people bicker or argue, or it could have the opposite effect and make everyone pull together and work harder, you never know until it’s tried.”*

(DVBAE-M1)

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<sup>17</sup> Profanity removed to preserve thesis professionalism.



Interestingly this subject added that money isn't necessarily the best incentive:

*"Incentives can be a good motivator, but it is worth bearing in mind that just by offering enhanced remuneration to an individual for them to perform a job in the most efficient manner possible is not necessarily the best incentive to get the absolute best out of someone."*

(QCAE-M1)

A dynamic and interesting viewpoint to consider was given by one subject who argued that incentives go against the principals of teamworking and could result in conflict of interest with the current collective bargaining system practiced at the site. Another mentioned how such a scheme could possibly erode trade union unity during the annual compensation and benefits negotiations. This subject likened it to the NCB's "*National Power Loading Agreement*"<sup>18</sup> that split the mineworkers once unchallengeable unity into many smaller factions who then exercised very little power or influence on central government from that point forward. The result of the splintering of the National Union of Mineworkers (NUM) led to the eventual decimation of the UK's once substantial deep mining coal industry and leading employer in a relatively short period<sup>19</sup>. This commentator said he feared such a scheme could force a split in the fragile unity of employees at the plant and the resultant "*balkanisation*" or fragmentation of teams at Company 'A' was not a sustainable practice. He warned that disunity, erosion of wages, benefits or current working conditions could occur which would likely lead to disruption that if not curtailed could possibly lead to cessation of some or all the operations performed by Company 'A' with the subsequent major job losses associated with the dissolution of the organisation. As in the case of the UK mineworkers rewarding work areas that achieved greater productivity in favour of others that in some cases may not be able to influence enhanced productivity because of several reasons could raise the possibility of the currently united team members turning their backs on the less productive sections because

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<sup>18</sup> *The National Power Loading Agreement (NPLA) was a UK wide coal mine production/mechanisation agreement between the National Coal Board (NCB) and National Union of Mineworkers (NUM). It was developed because a day wage for miners was deemed appropriate ending remittance linked to personal output. The agreement permitted different pay rates throughout the NCB's 17 areas which resulted in some miners getting a lower monetary reward than their colleagues working elsewhere in the UK (NCB/NUM, 1966; Hayes, 2004).*

<sup>19</sup> *The UK's coal mining industry was nationalised on the 1<sup>st</sup> January 1947; the newly established National Coal Board (NCB) consisted of a total of 958 collieries with a workforce of approximately 800,000 employees (Hill, 2001). In 1987 the NCB was restructured and became the British Coal Corporation (BCC) in preparation for privatisation by the then UK Conservative Government. Finally, in the 1990's with the passing of the 16<sup>th</sup> Coal Industry Act 1994 the administrative functions of BCC were transferred to the Coal Authority (CA) and all other economic assets were sold to various private sector enterprises (legislation.gov.uk, 2017). The UK's last deep coal mine owned and operated by UK Coal PLC closed on 18<sup>th</sup> December 2015 with the loss of 450 jobs (Coal Authority, 2017).*





they are “chasing the money” as one subject explained it, which is potentially very damaging, adding:

*“I don’t know about this one, ok, so I work in an area that can be very productive especially when we want to be, look at end of quarter’s, we can bang the engines out. So, I think it would be easier to get a bonus on my section than say the repair areas... Its dangerous territory tho pitting one against the other, look at things recently when we had a few golds and a day off [an unofficial concealed award scheme exclusive to one area] during end of quarters, they were used to get us working longer hours. We all loved it, but in the end, we got greedy, we were just ‘chasing the money’. It had the opposite effect on the other sections, it made everyone else <sup>20</sup> off and bitter... For this reason, I think for everyone’s sake, a new scheme would have to be fair, everyone has got to have a bite of the cherry, if not then just leave things as they are.”*

(FMAAE-M2)

This subject also supported such a scheme but shared the concerns about the effect on unity at the plant:

*“It’s not a bad idea, I’m sure an incentive scheme could be good, but its structure must be carefully negotiated... I’m just a little concerned how it would run; I would personally favour a scheme that would include everyone not individuals alone as this would have the wrong effect. The last thing I would like to see is sections pitched against other sections, back biting etc... We are unified on the shop floor, an initiative scheme like this could damage that bond and cause other problems for other things we currently enjoy and perhaps take for granted like the collective bargaining agreement. To keep things fair and even, the teams, the union and management would have work together every step of the way.”*

(KAE-M2)

Collective bargaining operates in an organisation between the company and the trade union, the union negotiates with employers about matters affecting employees. The trade union operating at Company ‘A’ is fully recognised by the organisation and its convenor and deputies are appointed to take part in all negotiations which will involve terms and conditions of employment, pay and compensation (ACAS, 2016). Company ‘A’ has an active collective bargaining agreement that has a rigid and robust structure which from the dialogue obtained during interview is enthusiastically supported by all production area personnel, the management team and the union itself.

The next subject is totally opposed to an incentive system being introduced. The area he works is the very last process and one of a clerical nature, its throughput is dependent on many other stakeholders in the production process who dictate the amount of work the area

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<sup>20</sup> Profanity removed to preserve thesis professionalism.



processes. As the personnel in the area don't really have much control over the outcome of production, it is likely this motivates his opposition:

*"Ooh, I don't think that an incentive scheme should be brought in, it would cause to many conflicts between teams, you'll get the teams divided. They will only serve to alienate the rest of the factory... I will use an example, the build team on the line got thanked for getting all the engines out, they had a big thank you, which was their bonus for working good as a team. This only served to alienate the rest of the factory... If you start breaking it down to individual areas having incentives and bonuses, then it basically starts making little sub factories out of the whole place. Everyone would be thinking of themselves not working together as a team. Plus, people could start rushing or choosing the quicker jobs affecting our quality"*

(TRAEM1)

Another shared the opinion that an incentive scheme should not be introduced, fearing it could be disruptive, he also questioned at what stage would an incentive be awarded:

*"I don't feel they need to be, no, incentives can give you a false sense of motivation... I don't think it would work cos the consistency isn't going to be there and, if it is implemented it could cause issues between the teams, no, not a good idea! Would people start rushing jobs? Would it lead to quality be overlooked? Where would you start? We don't even know how to effectively measure our performance. If we had no choice, then it must be carefully implemented as it can get dangerous because it's got to be properly considered and then controlled."*

(PIHCAE-M2)

This subject felt the introduction of an incentive scheme would drive people to work quicker but this could be detrimental to quality and safety which are fundamental principles:

*"Ok so personnel incentives? I really don't know, I don't know what incentives could work, yes, it's nice to have a reward for doing something, but let's come down to reality you're getting paid to do a job, a reward should be a bonus, but in the past people have abused them and simply said 'I won't do it', if they don't get one, that's when things get out of control... And factory wide bonuses, well managers are trying to make this shop into a production line, but it's not a production line, no, it's an overhaul shop, if your top boss is preaching that safety and quality come first how we can work faster. In the old days, the priority was to 'do the job right first time' that has gone out of the window now, it's all about times now and trying to reduce them, that's all we keep getting asked. An incentive scheme would make this worse I think and put even more pressure on the teams to produce faster output."*

(PRATAE-M2)

Overall, although a small minority thought that such a scheme could be divisive, they raised some very compelling points that need addressing. While a majority embraced such a scheme and welcomed its potential introduction the finer mechanics of such a system would require a lot of input from stakeholders to achieve a satisfactory structure. It was found later that the company used an award scheme around three years ago, that comprised of Gold,



Silver and Bronze awards that had a monetary value of £75, £50 and £25 respectively, it was a “*de facto*” incentive scheme. During interviewing this scheme was a to prominent point:

*“Yes, incentives worked here, they got a lot of people to work days that didn’t want to, it got people in here to get stuff done. Like some people don’t like working weekends, some people only want to work one day but they got people to do it for two, it got people in here, it worked. Thing was once people realise, they thought ‘right its end of quarter again we know what happened last end of quarter’. People always want a little bit more like, they said, ‘I’m not going to do it for what I had last time, we want a little bit more’ and then you were held to ransom like, well held management to ransom in a way... I believe it worked, but people got greedy as well, I think people always want more. I think it worked but it didn’t, created a bit of a monster... It wasn’t so much us, it was the line, we got on with it and were happy with what we get given, but the line, the fitters, they got greedy, they always had what they wanted in the end... They would always go and take that route, a lot of people got greedy and always a bit more, so a bit more was given and then it was, got out of hand really... People get more and more greedy and they wanted everything, some people were having more than other people that’s when there was bitterness. Incentives have got that affect, definitely, some people are happy, other people they want a piece of the action, like if some other people had it, it wouldn’t bother me, great, but I know other people are like how he has got that, why haven’t I got that.”*

(DVBAE-M1)

Another acknowledges incentives can work but they need to be distributed fairly and do not necessarily have to be monetary:

*“It’s a fine line that is between incentives for example, ‘boys you have had a good quarter, you’ve done well, you’ve hit your target, go out and enjoy yourself’ that could be ten pin bowling or go karting or something similar then that’s great. When you offer incentives to get engines out of the door like the gold awards its wrong as everyone plays a part in production not just the sections at the end of the process... It must be carefully implemented, as it can get dangerous because it’s got to be controlled cos like you said people will take the mick and keep wanting more... We need flexibility here; the problem is when someone says no I want a gold award, if they don’t have it then they make themselves unavailable for work... That’s the frustrating part, that’s when you get incentives that don’t work and create more issues than they solve... Overall yea, I think an incentive scheme has its place, if it’s managed tidy it would be great.”*

(PIHCAE-M1)

Another subject indicates an incentive scheme is a good initiative but warned that such a scheme if implemented should be clearly thought out long before it adoption:

*“If the company said we’ll give you a monitory award then I think that will make people pay more attention to their job. I know that they should have 100% focus all the time but that’s not the case, an incentive could defiantly help. It would need to be thought through properly tho, you’ve sort of got to find the balance, it’s quite a fine line... One issue could be if you give employees a monitory award for Q1<sup>21</sup>, then you don’t give them one for Q2<sup>22</sup> this could*

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<sup>21</sup> Q1 is shorthand for financial quarter one that covers the period of January 1<sup>st</sup> to March 31<sup>st</sup>.

<sup>22</sup> Q2 is shorthand for financial quarter two that covers the period of April 1<sup>st</sup> to June 30<sup>th</sup>.



*make their performance drop off as they are upset you haven't given them another bonus. It could have the opposite effect and cause moral to slip."*

(QCAE-F1)

This topic was by-far the most emotive discussed, the researcher felt that this theme was the source of the most diverse opinion experienced during the whole exercise. There was a porifera of widely opposing viewpoints, some subjects profoundly supported a team incentive scheme but bitterly opposed individual schemes and others vice versa. A few discussed the possibility of carrying lazy team members and questioned if they would benefit. Others commented that they would support incentives on an individual basis as they believed they worked harder than some of their fellow team members, they didn't agree a scheme should be universal. One subject raised a unique point that no one else considered, he illustrated that there is a current perception that office-based staff at the facility are often taken out or incentivised by the company. This is perceived to be an unofficial and exclusive yet clandestine scheme by the production area employees. He reveals that this is a cause of animosity for the shop floor staff, they do not think it is fair as they do not share such privileges. This individual alludes to the fact that this perception is affecting the current relationship between the office and shop floor staff creating a "*them and us*" scenario. Therefore, it is a source of possible bitterness which is having a possibly negative effect on productivity and moral:

*"I think that both an individual or team incentive scheme could work really, I guess, but it does depend on the circumstances. If it's given for getting something out of the door, then that's team involvement. If someone goes over and above, then it should be given to an individual. Now it seems that there is a bit of animosity, from a shop floor perspective, it's like the office will go out and do stuff, and no one on the shop will get to do anything. So, it's like 'them and us', isn't it? It's not one team."*

(TRAE-M2)

This concludes the analysis of findings on this theme, again there are many interesting and candid perspectives given offer about the use of incentives to enhance teamworking. The fourth theme will now be delivered "*the process of making decisions within teams*."

#### **4.4.5 Emergent Theme Four 'The Process of Making Decisions Within Teams'**

The final emergent theme is given the title of "*the process of making decisions within teams*", again a product of the in-depth dialogue around the matter provoked by the content of the interview guide. It was extremely clear very early during the interview phase that there



was strong sentiment associated with this team component and therefore no surprise that it emerged as a prominent theme when the data was subjected to thematic analysis.

The guidelines around decision-making go back to the initial introduction of teamworking at the facility, during this initial rollout, the organisation allowed the teams themselves to draw up their own rules of how they will make decisions going forward. It was very pleasing to hear that all teams engage in fair and equal practices. To give an understanding of the details, there are two distinct types of decisions making processes. One occurs in a production environment such as shift cover or when other external stakeholders are involved must involve the input of the respective manager. For example, when the team faces a challenge, they go ahead and formulate a plan, then vote on it, if accepted they seek approval from the manager and/or the Business Leader. The other type is decisions that only affect the immediate team and have no wider implications, the team formulate an outcome, each member has a vote, but the manager is not consulted, and the prescribed course of action is followed without further recourse.

It became apparent from all subjects that there is a universally practiced democratic method of making decisions in all the teams, it is evident this is almost always executed without any significant issues or disagreements. Some subjects did suggest they have been part of/or witnessed a passionate exchange of opinion between two or more members. They also indicated that after the vote, everyone always agrees to get on with things and any ill feelings do not continue for a prolonged period and soon dissipate. This is obviously a positive, as festering disagreements could possibly affect team morale and productivity. Subjects suggest that such events are simply an illustration of people's enthusiasm and are not taken personally. As a general observation, the system is obviously working satisfactory as indicated from the transcripts, everyone spoke with an affinity for the present decision-making processes their teams have adopted. The following long serving employee has been a member of various teams in various areas of the facility. He neatly summarises the democratic processes he has consistently encountered during his extensive time operating within a team environment over the last 20 years:



*“Decisions are made by the team they got to be talked in as much depth as is required then they are voted on democratically... We make decisions by majority.”*

(TRAE-M1)

This rather sharp perspective was given by one subject:

*“The teams always use democracy when making a decision, the majority rules, that’s my experience. You must go with the majority, I think, in a team there is no alternative. It’s a democracy at the end of the day, isn’t it?”*

(FEAAE-M1)

Another adds more provenience:

*“Every team I’ve been in uses majority voting, one person one vote, if someone isn’t present we will go ahead and vote unless it’s a particularly contentious problem, then to ensure its done democratically is important to make sure everyone who is affected is present.”*

(RAE-M2)

Many of the subjects commented that in their respective teams they use the elementary yet effective method of a show of hands to make decisions, with the majority used to decide upon the adopted course of action. Everyone has a fair opportunity and the voting method is transparent and clear, indeed there is no necessity for it to be overcomplicated:

*“In our team, we make decisions by a voting; we all got one vote, we use a show of hands; each team member has got one vote each. It’s simple and fair, the majority wins. Rarely do we have any issue using this method. No one can really argue with it as it’s democratic and transparent.”*

(FMAAE-M2)

Another subject from a different area describes the use of democratic principles in his team meeting; his comments reveal the cohesion that he feels with his fellow team members:

*“We talk about it through the teamworking meeting and then we work something out, it’s always worked out amicably, we always make sure no one gets stabbed in the back and all that... We make decisions by a majority.”*

(SAAE-M2)

During analysis, every example found in the interview transcripts illustrate how subjects believe they and their fellow team members feel they have a fair and equal democratic voting process that is secure and grounded:



*"We make decisions by consensus... We all have a chat about it and just go with the majority, really... You have to go with the majority, I think in a team, there is no alternative, it's democracy at the end of the day, isn't it?"*

(TRAE-M2)

The following subject commented that his team have not made any decisions that require voting they simply discuss the issue and then decide amongst themselves by dialogue. This is likely due to the elevated levels of coherence in his team and the relatively small number of members. If for any reason the team could not decide on something, then they would employ a show of hands to ensure that any decision made was democratic and everyone would agree it was conducted in a fair manner:

*"We've had a few discussions in our team meeting about things and have always come to a decision amicably, we haven't had to go to a show of hands yet or re-discuss anything. We just talk things around the table; everyone gets their say and puts their point over. The team is fair and if we did need to vote, it would be by a show of hands in a democratic style, whatever the majority was would be carried."*

(PIHCAE-M1)

This subject offers a deeper insight into his team's decision-making process. He acknowledges his team do have disagreements when making decisions and this occasionally resulted in some "colourful" heated discussions. He also states after such incidents people do not feel awkward, display bitterness nor do they prolong any differences. In his remarks, he alludes to his experience of conflict situations and the successful resolution by his team:

*"We make decisions in our team meetings, if something needs to be spoke about we get together then we talk them through together as a team, one individual alone doesn't make the decisions... Normally it results in a bit of an argument... We clap heads just a little bit, but in the end, it gets laughed at, it will always get settled in the end... Nothing stays at loggerheads; a decision is always found."*

(FEAAE-M2)

This subject explains in greater depth the decision-making process that is practiced in his respective team. His remarks again indicate a highly cohesive team who are comfortable enough with one another to be frank and factual without discussions being taken to critically and members becoming offended:

*"Decisions are made by majority, we normally bring it up in a team meeting, if it's a decision is needed straight away then it's made by whoever is in work at the time. We have a process where we will have a quick meeting on the shop floor, look at what we need to discuss;*





*everyone has their say, then normally decide by a show of hands as a team what needs to be done to sort out the problem."*

(DVBAE-M2)

Another interviewee spoke in-depth about their decision-making process:

*"We have a team meeting weekly, these are when we sit down and talk about any issues in a clear way and make our decisions, everyone gets their say and gives their opinion. I definitely think that the key thing is to make sure of is they [team members] feel listened to and that they aren't going to be afraid to speak out next time or going to be annoyed, this would not be a good thing."*

(RAE-M2)

Several subjects indicated good communications are imperative in helping the team decision-making processes to be effective and meaningful. Team members spoke about the importance of maintaining good dialogue, which they believe was very important, so everyone was fully informed prior to a decision being made:

*"Before any decisions are made by the team they got to be talked in as much depth as is required then they are voted on, it's important to make sure everyone who is affected is present. If it's not discussed properly then you're not going to get anything solved and it's going to cause disruption for the team further down the line... If someone was particularly unhappy about a decision the team had made for example in their absence, because it had to be made quick, then it would have to be taken away and discussed again. This of course requires good understanding and listening from the other team members."*

(TRA-E-M2)

Another subject supported this perspective:

*"A vote should only be made by the team once all the facts are known and everyone's opinion has been considered. This means all team members who want to have put their opinions forward and everyone else has listened. When all the members are equipped with all the facts, the team can make a fair and binding decision. By doing things this way, people don't feel annoyed as they've had their say, they have got things off their chest. Even if the vote does not go their way they've said their piece and most are satisfied with that...Clear communication this is key you know, we have that good communication I think it really helps because we all respect each other's views...This is what teamworking is all about isn't it, respecting each other, working as a team, acting as one!"*

(QCAE-F1)

Further support is found in this dialogue:

*"With us when a decision must be made by the team, we either get together there and then and talk it through or if it can wait it is put on the agenda for the next team meeting. During the meeting, we discuss the problem and decide. All communications are typed up in minutes, so we can return to them if there are any queries further down the line by the team or management. That's the way we have always done it, this adds accountability into the process to and keeps things equal, fair and everything recorded."*

(SAAE-M1)



Communication within the team meeting was also found to be important:

*“Here we have a tried and tested method, you got to state you’re point in the team meeting, we don’t just accept one or two people’s opinion we want everyone’s or at least everyone who wants to give it, as a team you got to talk things through by good communication this keeps the harmony right. Everyone has a voice and it’s important that people can air their differences in a proper method.”*

(DVBAE-M2)

This subject supported this previous perspective but also emphasised the necessity of effective communication within the team adding:

*“With good communication things just get done a lot quicker and a lot more efficiently for the overall benefit of the team, there is no sitting on the fence or deadlock when making decisions. It’s done in one team meeting no fuss. I think we make decisions in a very effective way, I’m not sure if this is the case for all the teams but in ours it works very well, I haven’t heard of any issues elsewhere. We are also lucky as our team do work excellent together and get on really well; it was a little hard at first when we didn’t know each other but when you work together every day that soon changes. This helps the decision-making process without doubt. When you get a team that is working well together like ours it can be very productive, makes teamworking much easier.”*

(FEAAE-M1)

As the discussions progressed the researcher was enthusiastic to explore what happens when a team member is not particularly happy about a decision and how do teams cope with this scenario. It was found opinion varied from team-to-team, one subject outlined his team’s approach to such a scenario which seemed to be an amicable, considerate and fair approach:

*“If someone was upset at a decision the first thing we would do is find out why he or she was unhappy with the decision... I would completely want to understand what their point of view was and then explain completely why the decision has been made and that his or her idea could be good but we’re doing this for a reason, because of x, y, z. It’s all about making sure you’ve heard his or her opinion and making sure the person knows they are being heard. You don’t just disregard their opinion, as a team we make sure team members feel their opinion is valued. If the decision is made, then we need to explain why we’ve taken this decision because of whatever reason and hope he or she doesn’t feel to aggrieved by it... I think that the key thing is to make sure of is they [team members] feel listened to and that they aren’t going to be afraid to speak out next time or going to be annoyed, this would not be a good thing. It’s important that they can feel they can share their opinion next time we are discussing something. As I said, teams are one, a mutual combination of people, there should be no one who feels like an outsider especially when making decisions, that’s when teams start to fail. It’s essential, you got to state you’re point in the team meeting, we don’t just accept one or two people’s opinion we want everyone’s or at least everyone who wants to give it, as a team you got to talk things through by good communication this keeps the harmony right.”*

(QCAE-F1)



Another subject indicated his team has a different approach, their position was that once a vote was taken and a decision made it was upheld and not changed. The only exception would be if a very prominent point was raised by a team member who was absent at the time of the vote. This point would have to be significant enough for the team to call an extraordinary team meeting and discuss a revote. The subject signalled that this could be a cause of confrontation within the team, but happens on an occasional basis:

*"If a decision is made and voted in, then ultimately it's a done deal, unless... If someone is not particularly happy with a decision we will listen to their concerns, but it does depend on their reasons, I guess. Sometimes, we can see their point and it makes us think, 'oh, well, maybe we were wrong then'. In these cases, we may go for a re-vote... Really speaking everyone should raise their issues when you are having the vote not after! Things like this can result in a confrontation, we don't like that. Thankfully, this doesn't happen often, I think I only remember once or twice it has... Everyone wants to come to work and get on, which we all do, our team are very cohesive, it defiantly helps us make fair decisions. I think our team works, we all get on and enjoy doing our jobs together, decision-making is easy."*

(TRAEM2)

This next subject agreed that decisions were made in his team by agreement but suggested that one team member was particularly dominant and occasionally influenced people's thoughts. This was the one exception that raised awareness that although most team's work using democratic principles in a very small minority sometimes this was not always the case:

*"We make a decision between us and we all come to agreement, well, that's how it's supposed to be, but in my experience in my team one of my team members seemed to have the overall say, whatever he said was passed and the others simply agreed. If I ever tried to give my opinion then it was pushed to the side, I don't really know why it happened like this, but it did. Overall tho, we are quite fortunate we have a good bunch of boys, so we get on well, no animosity there so, we're all on the same wavelength, makes teamworking and decisions much easier. We get on well as a team; we are all good friends I think this really helps when making those awkward decisions and stuff."*

(PRATAEM2)

Interestingly the dialogue illustrated an obvious lack of accountability within the team decision-making processes. Many subjects indicated that if an incorrect decision was made there was little or no consequences for the team or its members:

*"One thing I want to add is there is no accountability for the teams... Nowhere near enough accountability or no punitive consequences especially when making a bad choice, you know the wrong decision... Teams should be made more responsible and more accountable as that will make them more efficient and more effective; we have never been made accountable or responsible for our own actions."*

(FEAAEM1)



Another subject adds to this discussion:

*“People aren’t accountable for bad decisions at either management or at team level, there is no comeback for causing some of the issues that I see that are going wrong here... When things do go wrong the teams are not held responsible for poor decisions in the same proportion as when things go well.”*

(QCAE-M1)

Yet another illustrates his frustration with the lack of accountability:

*“The accountability side of team decision-making for instance has never been tangible to the shop floor. The teams have never been made accountable and responsible for their own actions.”*

(FMAAE-M1)

Some subjects believe the decision-making process is a management function and not one that should be taken by teams:

*“People are of the opinion I’m not really sure I want to be accountable for that decision, they shy away from it and suggest that maybe it should be a management function.”*

(SAAE-M2)

This candid response on the same matter included the following comments:

*“A lot of people here on the shop floor believe that they are not paid enough to make decisions and it isn’t in their job to do so, decisions should be the sole responsibility of the management team. They think they are happy for us to do it because some aren’t prepared to do it themselves!”*

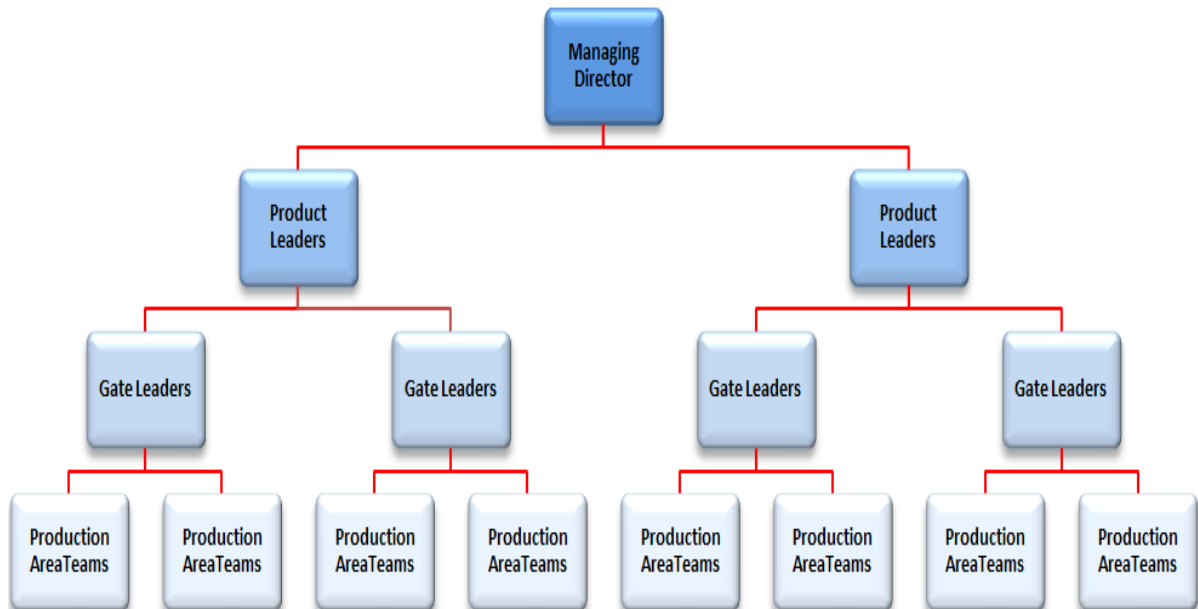
(FEAAE-M2)

This concludes the analysis of findings on the fourth emergent theme. Once again, there were some prominent and fair points made by the very people practicing teamworking daily. Now the analysis of the findings associated with the fifth and final emergent theme “*the role of middle management within the team environment*” will be delivered.

#### **4.4.6 Emergent Theme Five ‘The Role of Middle Management Within the Team Environment’**

The role of middle management at Company ‘A’ and their interaction with the teams was another important matter that was discussed enthusiastically and in-depth during most interviews. This emergent theme was given the title “*the role of middle management within a team environment*” which attempts to emphasis its significance to the research, its subjects

and the host organisation. To put this theme into context, to begin a high-level overview of the present organisational structure operating at Company 'A' is given. In the facility, there are currently four tiers of management, they comprise of the site leader who is the Managing Director, followed by the senior management tier known as Business Leaders, below them is the middle management, then the teams this is illustrated in Figure 4.5. There are also various other functions that support the organisation such as Engineering, Materials, Planning and Quality. Middle managers work in co-operation with the teams and have more of an influencing role rather than an authoritarian one. As stated the total population of middle managers is approximately thirty strong comprising of both male and female; their distribution approximately three per major production area with some working in the support functions.



**Figure 4.5:** A high-level illustration of the current management structure operating at Company 'A'.

From the transcripts, there appears to be a considerable amount of confusion within the production area teams of what the actual middle management role entails. Several subjects were quite unclear what function they performed, there were repeated comments regarding the absence of a formal job description and many felt that nobody knows the exact function of the role. From the transcriptions of the data collected it seems that many of the middle managers have different operating practices and there is no common standard, this subject was especially candid:



*“Operate significantly differently to each other; the role is seemingly inconsistently practiced across the community.”*

(QCAE-M1)

Another added:

*“Each middle manager operates in a differently manner none of them have the same management methods, it really does depend on their nominated area, their personality and the pressure they are under and how they cope with it!”*

(FEAAE-M1)

After further probing it does seem that all the middle managers do in fact do things differently and after closer examination there seems to be few common denominators. The overlaps that were apparent included sickness reporting, amending time miss-bookings, assisting in quality investigations and upholding Environmental Health and Safety (EHS) policy. Subjects identified a few influencing factors they included the middle managers individual management style, what area they are responsible for, their personal level of enthusiasm, the respect the production area team members hold for them, the amount of experience they have in the business and the complexity of the process they own. One thing subjects did comment positively on was the recent efforts moving the more experienced middle managers to run the areas that were more complex. They felt that there was effectively a two-tier population of middle managers, one with a lot of experience who were former production personnel and one that comprising of individuals who had recently been employed and had little or no experience in the industry. One made a strong reference to their manager who had limited experience commenting:

*“Some middle managers don’t have an idea what is going on, they need to go through the ranks and understand the business before becoming a manager.”*

(RAE-M1)

Another subject said he would like to see the manager develop a better relationship with the teams, working in a partnership which he believes would improve productivity:

*“Take the middle managers for instance they should be spending a lot more time with their teams... They should be spending more time with the people on the shop floor. I think their current approach is all about output, output, output, whereas I think they could have a different mindset where they should get to know the team members a bit better. If they did*



*this then they would get the guys onside, I think people would work together better and output might be improved that way."*

(QCAE-F1)

Another interesting point was made when discussing the manager's authority. It became evident from several interviews that the more autonomous the team is then the more militant they become. If a manager allows a team to gain too much influence, then they become practically independent of them and their authority. They then "*become a rule to themselves*" as one individual put it. This could be interpreted by some as a high-performance team, but after consideration of the organisational context it is evident that such teams have become a problem for management, they simply didn't know how to cope with their strength. An interesting account was given by one subject who described how a formidable team operated with regards to their manager:

*"The Alpha team is a very tough team to handle; they always stick together as one no matter what. If the team doesn't want to do something then the Manager hasn't got a chance, there is nothing he can do to persuade them. They have cracked a few of them over the last few years... Management doesn't like upsetting them boys to such an extent they don't go anywhere near them if they can avoid it. If they must approach them as a team for some reason they end up pandering to them to butter them up, the team always get their own way in the end. I'm not saying they are a bad team, not at all, they are good, they always hit their targets and every one of them works hard, they are just strong, maybe a little too strong that's what I mean. I really don't know how they could become that powerful; someone should have stepped in before now."*

(DVBAE-M1)

There were further comments recorded on the actual viability of teams. Subjects stated the levels of scrutiny they currently experience from their manager have increased in the last few months. One described how his team is struggling to operate in what they believe is not a true teamworking environment:

*"The manager for this area is always down here on the shop floor, if something is urgent he just hangs about all day badgering us until we finish the job. If he's got a meeting or something else on, he keeps sending the intern up instead, he will do this every half hour or so. All it does is slow us down and distract us if anything... The managers here know if they have a genuine issue like if something fails test or something else like that then we will pull the stops out to produce the goods, the problem is when they say there is an issue and there isn't, this happens quite often, especially at month or quarter end. This just ends up demoralising the team, which ultimately affects our performance."*

(FMAAE-M1)

Another subject gave a sharp response:





*“Middle managers, they are supposed to be team coaches and mentors, but they are not they are trying to be supervisors! We understand their role, the production side of it at least, not sure what else they take care of tho, I’ve not read it or seen it written down anywhere. I feel tho they are not prepared to let go of power, they want to retain control and not give it away. It doesn’t matter how much you ask them to change they don’t.”*

(PIHCAE-M1)

Another stated that under his former manager team members were given more autonomy and things were very different, he questions what has changed from a company strategic objective and if teamworking is really supported by Company ‘A’ any longer:

*“Prior to the current management regime, we didn’t get bothered until the jobs were ready, it was better that way; surely this micro-managing isn’t teamworking! I would happily just go back to turning spanners and leaving everything to the manager if that decision was made. This would make my job easier to be honest... I don’t want to sound negative and want to add that I do like being in a team but either the business is in teamworking or out, there can be no half way house.”*

(PRATAE-M2)

Going further some subjects described how their manager controls overtime, rest day working and leave while others suggested the team decides in a partnership with them. Some subjects said their manager takes a keen interest in their day-to-day issues and were indispensable with one especially enthusiastic, declaring their manager “*worth their weight in gold*”. Another person from a different area spoke quite negatively about their manager, declaring the team does not have any faith in their capability, adding:

*“The “Starpont” roles oversee production, quality and safety but I don’t know why if I have to participate and report them to the team why do I need a manager? We do everything ourselves as a team and don’t need a Manager to look after our affairs, he adds no value.”*

(FMAAE-M2)

Another subject shared the previous viewpoint:

*“Well regarding the role of the manager, I think some of them haven’t got a clue, not all of them mind. They don’t have to know the job, but they need to know the right person for the job. A lot of them think they know it all after a few weeks and then try telling you how to do your job; they also use their position to get the decision they want from the team, kind of manipulate us. If the team made all the production decisions, there would be no point having the manager... There are too many manager’s trying to be in charge, to many cooks spoiling the broth it definitely not a case of many hands makes light work!”*

(PIHCAE-M1)



After completing a trawl through company policies documents, it was evident that there are no definitive guidelines for middle managers to follow and therefore no boundaries to the role; this is clearly displayed in the last subject statement. Yet another point raised by several subjects was the observation there is no established training program for new middle managers given by the company. The expectation is they simply shadow more experienced colleagues for a week or two prior to transitioning into their new role and taking over. It is down to the individual manager to get mentoring off more experienced colleagues or strive to be recommended for a wider-company endorsed management course. This can be challenging as enrolment on an official course is dependent on two factors, one if there is budget available and the other if middle managers perceived performance is classed as satisfactory enough to warrant training. Managers who are not perceived to be good enough future leaders are simply not enrolled; their fate it seems is to enact a self-fulfilling prophecy of probable failure. The lack of formal training is a cause of concern and confusion amongst the production area teams let alone the manager's themselves. The production area personnel also have difficulty identifying where in a team orientated organisation the tier fits. One subject captures the confusion clearly by commenting:

*"I really don't know what my Manager does in his day-to-day job, ok he assists us with production and he always seems busy but I don't understand his role. It seems that different middle managers do things different to one another... I'm not entirely sure where they fit in with the teamworking model either. There does seem to be a conflict between their role and the team functions, it's not a huge issue but a little confusing at times."*

(KAE-M1)

Another subject adds that he is unsure what his middle managers role is:

*"I don't really know what he does to be honest... I think the Manager is accountable for what we do and when we do it. I know he updates the production boards in the morning and I think he should be the one to make the call and make the decisions about production. Obviously, he does this working with the team allocator to make sure things get done on time... But no, the role of the Manager's here is not clear, we have never been told exactly what they do and how the teams fit into what they do, or they fit into the team, it's all a little fuzzy and undefined. I think the company really needs to define what the teams are supposed to be doing as a team and what the middle managers are supposed to be doing for the teams. So, there are clear lines of engagement, which currently do not exist!"*

(FEAAE-M2)

Another subject added further supported:

*"Where do the middle managers fit in with a team orientated workforce? I'm not so sure; it seems that authority alternates over the year between our manager and the team. When there is a push towards teamworking from the States, the managers seem too told to give up their*



*authority and keep a lower profile trying not to influence things too much. When the business tightens up again the manager assumes more of an active managing role and tells the teams how to arrange their work, overtime, leave and the other things. It's a cycle, I've seen it lots of times, I think it's all down to there being no concrete rules of what the teams or middle managers boundaries are. We just get on with it, this conflict of interest is not a battle it more a misunderstanding. It all works out ok in our area, we like running things as a team but are happy to co-operate with our manager's input and we work well together... Not all areas have this rapport tho and sometimes there is a power struggle of who is in control. It does on occasions become a little baffling as to who is responsible for what... You do hear from others that their middle managers are just not cutting the mustard, they just don't get it, they have the wrong personality or wrong character trait you know... It because the company keeps bringing in fresh faces that are far too inexperienced in key roles that should have gone to experienced people, just doesn't work"*

(QCAE-F1)

This perspective is rather an in-depth view:

*"You look at middle managers and again it's an observation but, I don't think they have defined roles and responsibilities. I don't think it's clear enough to me or other people what they do. I speak to most people here and they know exactly what their roles and responsibilities are. I think it is very clear that we see and observe middle managers in their operational function, dealing with moving material around and talking to people to influence production and ensure the products are moving through the business but nothing else. Again, I think there is a dysfunctionality piece there from a manager point of view in relation to how they manage their teams and how they must manage the manpower, against the task. It's unclear how they manage this or what their management role is in relation to what is the function of the team. It appears to me to be a disconnect between the teams, the role of the senior management and the manager. What is the role of the teams, are they self-managing? Where are the overlaps? Where are the touch points and how does that happen? It appears that the teams have a view what the management should be doing, and management has a view what the teams should be doing but actually there is a bit of a void between the two, that's how I observe it to be."*

(QCAE-M1)

Another subject emphasises the lack of authority demonstrated by some middle managers:

*"I don't think there is a clear enough definition or appetite for someone to step in and tell the teams 'no' and pull up people who are taking advantage. This place might use teamworking, but people really need to understand that there is a bigger picture; it's not all about individual sections... I don't think the middle managers have got enough powers, I don't think they got enough guts or authority to take a walk through a section and say 'oi, come on now get on with it'... Quite a few of the middle managers are weak, they don't lead the teams, they want to be everyone's friend instead of a leader they also don't deal with individuals who aren't working or taking the mick, they address the team instead. That alienates the good guys and makes them think bugger this!"*

(TRA-E-M2)

This subject adds to the debate about the lack of authority:



*"I'd like to see more from a manager from a discipline point of view, but I think it's the same story throughout the factory, umm I probably speak here for most shop floor employees... For example, if there is an issue regarding, umm, three people for instance who are working stupid long overtime with no work. Rather than manager coming down and telling the three individuals 'what are you doing', they don't want an argument or bad feeling. So, they will just come to the shop floor and say right boys and address the team not the three bad eggs."*

(SAAE-M1)

Yet another provides further provenience:

*"Most of the middle managers pussy foot around the teams, they don't want to upset them as they know keeping the shop floor on side is key to production, if they upset the teams then they will be less productive, and the manager will start having huge pressure off higher management. The middle managers are not prepared to make the tough decisions to deal with people, to deal with situations, to lay down the ground rules and stick to them."*

(RAE-M2)

This subject commented on the current lack of training for new middle managers and thinks they should have proper training or at least work with someone more experienced prior to embarking on the role for a prolonged period. Currently, they learn the role as they go "in at the deep end" as such:

*"I know middle managers don't receive any training before they come into the role. I think they shadow someone for a few weeks first, they should do this for longer. This will let them see what's going on and how to deal with it and people before having the responsibility. They should do this before they are given the role 100%... When ours first started, he didn't really know what's what, how to treat people or what he had to do or what he had to act like... He had to learn fast which not his fault I suppose, he's had to find out as he has gone along. If he did have someone to shadow he would have been a lot better prepared to perform the role, it would be a definite benefit. A mentor would help, like somebody to go back to and discuss things as different problems happen."*

(FEAAE-M2)

During the interview process, there were several subjects who commented that they would like to see the manager roles possibly evolve into an authority on teamworking best practices. If the company re-trained the community as "team specialists" or "team coaches" as some described them, this could be an effective use of a resource that some consider lacks direction and structure. The coaches could be used to help teams out in situations where they don't feel they currently have the necessary skills in which to act appropriately. The transcriptions suggest that many team members have been in countless scenarios where they did not know how to manage the situation as per the following comment:

*"We have had quite a few times where we could do with something like a team coach to help us out. We muddle through things that we are not comfortable with at the moment. A team*



*coach could advise us the correct way in which to go about doing certain things. Look outside of work, every good team needs a coach!"*

(KAE-M1)

Another opinion offered by this subject is everyone in teams are the same level and this can be a problem when fellow members are not following the rules. Taking fellow individuals to task is awkward for other team members as everyone is supposed to be equal. The subject suggests that a team coach could be used to facilitate during such situations:

*"Unfortunately, some people are of the opinion, 'hang on he's on the same level as me, who is he to tell me that I'm doing something wrong'. That's where sometimes you need the manager or perhaps a team coach to help, give advice or take a bit of control."*

(BDDAE-F1)

This subject also supports the transformation of the manager role to a coaching based advisory role:

*"I think the teams could do with a coach, I think they could do with some coaching on team skills and what are the wider responsibilities of the team, what is the expectations within the role of the individual and the whole team, things like that... I think you can set it up, so a coach could have some authority and use this where teams struggle to come to a decision on something. A coach could use that authority or equally they could be there in a pure coaching function, transfer team skills and perform an umm teamworking coaching function or equally it can have a level of a management authority. The issue with level management authority is probably that you would tread on the toes of the manager function and you begin to wonder what the point of the manager function. If a there's a different management authority under a different name within a team umm and therein lies a business conflict I would argue one doesn't necessarily lie well with the other... There's no reason why middle managers shouldn't, umm, shouldn't have a level of training to coach in relation to what it is they expect off their teams and how they expect their team to be self-managed."*

(QCAE-M1)

The next subject quoted draws attention to assumption that many of the shop floor personnel believe middle managers are limiting teamworking and not embracing or actively supporting a mentoring role or endorsing team coaches is they possibly fear their current positions may become superfluous to the organisation's needs. He also indicates that the consensus on the shop floor is that a manager acting in a coaching capacity would in fact have a larger role with greater security than their current role. His viewpoint also poses a few provocative questions about the whole operating fabric at the facility:

*"It does appear there are certain middle managers and their managers who are not really interested in taking teamworking forward beyond its current point. I think maybe that they may be worried about losing some or all their job... As I tried to explain to my manager, if*



*you relinquished control I think you would be busier if you became a mentor or a team coach because then you would be more involved in other things. You know now you are running around doing things you shouldn't have to do because the whole site isn't functioning properly together."*

(PIHCAE-M2)

The next subject suggests that as middle managers are not taking up a mentoring or coaching role and some are not particularly confident exercising authority that a power vacuum has been created which can lead to a single strong-minded team member filling the void. There can be an emergence of a natural leader within the team in the absence of a senior figure to act as a counterbalance to the stronger personalities in a team. In effect, they grow in confidence and stature to a point where they are running the team and people are following them and not prepared to challenge the dominance. This may be due to a lack of confidence and/or they are content for someone to lead them or they could feel intimidated. He also adds that the emergence of a natural leader can affect moral in a non-coherent team and undermine the whole concept of self-direction teamworking:

*"Without the manager taking more of a managing role or being a team coach to advise and act as a moderator, you always gonna get somebody who emerges as the dominant one. This can greatly affect team moral because if someone can start dictating then they tend to take charge of the team as they were like the boss. That defeats the whole objective of teamworking."*

(TRA-E-M1)

This viewpoint is congruent to another subject who believes that in the absence of a nominated mentor or coach then an alternative in their team has emerged. One person has assumed the role of a mentor and coaches their team. He adds that a more senior figure is a positive thing in his team, a "go to guy" who everyone respects. It is worth pointing out that the general observation is this team is highly coherent and everyone works well together, they are considered a high performing team when compared to others within the facility:

*"We're quite fortunate that we got a union representative on our section who we all got a lot of respect for. If someone has an issue for example and all the team tried to explain to him, he probably wouldn't listen, but if someone like the union representative went on to him and said look, sit down here and let's have a chat, the individual would take it on board. He is a natural mentor, he's not domineering, doesn't try to rule the team he just coaches. We don't have hardly any issues in the team, but when we do which is bound to happen occasionally, then usually he can sort it, so it's very good to have that."*

(SAAE-M2)



This concludes the analysis of the findings that concentrates on the responses that revolve around the five emergent themes acquired during the thematic analysis of the transcribed data. The researcher strongly advocates the depth of opinion required was surpassed by the interview exercise and the chosen data collection method was therefore considered to be appropriate. It is further acknowledged the transcription of the collected data and the associated analysis phase was a complicated and extremely time-consuming process that challenged the researchers limited resources. It was however, very rewarding to observe the rich accounts emerging from the data during the thematic analysis, a summary of the chapter will now be presented.

## **4.5 Chapter Summary**

### **4.5.1 Summary**

This chapter offered an insight into the interview subject's demographics, including age, gender and area of work as well as the pseudo-codes attributed to individuals to ensure their identity was concealed and protected in accordance with ethical agreements. The chapter's content also contains significant dialogue around the five emergent themes and areas of interest that yielded when the transcribed data was subjected to a process of thematic analysis.

Regarding the five emergent themes there have been some very compelling points raised which can be observed in the dialogue cited in the chapter. The depth of discussion and richness of the data obtained is encouraging, prior to the findings underground deeper examination in the following chapter. This will determine if they challenge or concur with relevant aspects of current team literature and what is occurring in practice at Company 'A'.

\*\*\* End of Chapter 4 \*\*\*





## **~ Chapter 5 - Discussion of Results ~**



## CHAPTER

# 5

## 5.0 DISCUSSION OF RESULTS

*"THE GOAL OF EDUCATION IS ADVANCEMENT OF KNOWLEDGE AND THE DISSEMINATION OF THE TRUTH..."*

*~ John Fitzgerald Kennedy*

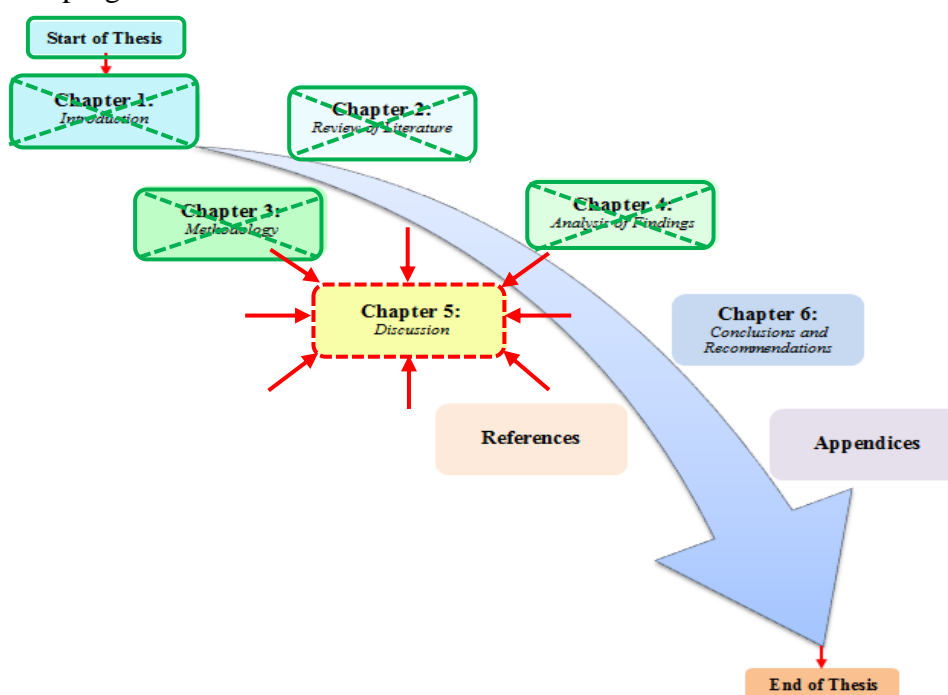
*(1917 - 1963)*

*American World War Two Military Commander, 35th President of the United States*

### 5.1 Thesis Progression

#### 5.1.1 Progress Map

Chapter five discusses the results that were generated during data analysis. Figure 5.1 illustrates the progression of the thesis so far.



**Figure 5.1:** This chapter is concerned with the discussion of the results attained from data collection.

### 5.2 Chapter Introduction and Objectives

#### 5.2.1 Introduction

This objective of this chapter is to examine in greater depth the five themes that yielded during the data analysis phase of the interview transcripts. The themes will be subjected to detailed scrutiny and a comparison exercise will be undertaken with the relevant



literature and what is occurring in practice at Company 'A'. This contrast will identify any concurrencies or challenges between the two sources which will help provide solutions to the research problem, furthermore it will assist in the generation of contributions to knowledge, practice and recommendations for areas of potential change.

### **5.2.2 Objectives of the Chapter**

The objective of this chapter is to discuss the findings that have been presented in the previous chapter in depth within the context of relevant literature and compare to what occurs in practice. This will help to provide a viable solution to the research problem, the discussion of results will now commence.

## **5.3 The Discussion of Results**

### **5.3.1 'The Implications of Effective Training to Teamworking'**

The term "*training*" is used where a systematic approach has been adapted to aid learning and development to improve individual, team and organisational effectiveness (Goldstein and Ford, 2002). It is very important to maintain necessary competence in employees through an adequate system of training (Wei-Tai, 2006). From the findings, it is clearly apparent Company 'A' do not embrace any form of team training and hasn't done so for a prolonged period. The limited team training that was delivered some years ago was described as insignificant by all subjects during interview. When consulted, it is clear from the literature that effective teamwork is strongly related to adequate team training (Bradley, White and Mennecke, 2003; West, 2004), which leads to increased levels of organisational commitment and employee performance (Wakeling, Beatson and Purcell, 2015). Overall, there is considerable support found that outlines the many positive benefits of implementing effective training for teams (Jacobsen *et al.*, 2001; Goeters, 2002; O'Connor, Flin and Fletcher, 2002; Salas, Wilson and Burke, 2006).

It is clear however that Company 'A' cannot be singled out for its non-pursuance of training, in-fact there is evidence in the field that the development of appropriate training remains a challenge for many team-based organisations (Marks *et al.*, 2002). From the perspective of the team members the lack of training does seem to be a cause of frustration as indicated by many comments received during interviewing. It is worth noting that team training in this context is formal training given by an organisation to team members that



attempts to improve the teamworking experience and offers members enhanced skills to be able to appropriately transact facets that are essential to effective teamworking. It is different from cross-training which is another form of training which is an intervention that is completed by team members with one another. When doing so they pass on their knowledge and share the skills directly relevant to the task they perform. The following dialogue illustrates the frustration felt at the limited amount of team training that has been delivered in the period teamworking has been operating at the facility, they include:

*“...I’ve never had any team training at all during my time working here. I learned teamworking on the job from the other guys.”*

*“...It is a common complaint amongst the shop floor that we have never had any decent team training.”*

*“...Any training now is only on the job training, that’s the only training that I seem to see that gets done.”*

*“...I think the company needs to look at this and consider the whole team training issue.”*

*“...Team training, no, never had any!”*

*“...When I started here, I was just told to get on with it!”*

*“...Team training here is non-existent.”*

*“...I don’t think anywhere near enough team training has been given.”*

To ensure teams remain effective members must learn and apply new things concerning both the task they are undertaking and develop improvements in interpersonal processes. This enables members to work together better as a collective unit (Morgeson, DeRue and Karam, 2010). It is considered “*imperative they work in a co-ordinated manner*” (Littlepage *et al.*, 2016, p. 1276) as this is the very essence of teamworking as poor co-ordination is problematic (Zaccaro, Rittman and Marks, 2001) and has also found to have a significant impact on safety (Merket, Bergondy and Salas, 2000; Shappell *et al.*, 2007; Littlepage *et al.*, 2016) although the two are seemingly unrelated. Many subjects signalled they feel they would benefit from training and that they would gladly embrace and welcome such an endeavour, this offers support to numerous studies including Arthur *et al.* (2003); Hill and Lent (2006); Satterfield and Hughes (2007) and Yeager and Nafuchi (2011) who all argue that training results in improved team performance as well as being linked to many other positive organisational outcomes. Klein *et al.* (2009) and Schuenemann *et al.* (2007) for



instance believe that a commitment to team training is an essential building block of effective teams, while Cannon-Bowers and Salas (1998) state that team training clearly works and should be widely practiced by all organisations embracing teamworking. Delise *et al.* (2010) found that teams need to possess the necessary KSA's that allows them to effectively communicate and co-ordinate with other team members. This in turn assists members to perform tasks more efficiently as well as providing a mechanism for further increases in their competencies and provides closer collaboration (Weaver, Dy and Rosen, 2014). Harrison and Pelletier (2000) believe that by providing members with the essential KSA's through training a key ingredient is given that has a positive effect on the organisation, inspires success and helps achieve corporate goals. It does this by equipping team members with the "*competencies necessary for optimising teamwork*" (Salas *et al.*, 2008a, p. 1002).

Furthermore, team training has also been linked to "*productive conflict resolution*" (Figl, 2010, p. 326) as well as offering team members the skills to help them overcome issues with diversity, that alleviates team conflict (Yeager and Nafukno, 2011) and facilitates a reduction in team prejudice (Phills *et al.*, 2011). The mitigation of such matters is advantageous as the quicker employees can negotiate awkward team situations that inevitably occur during the normal course of everyday business the better for the organisation and team alike. Going further, training individuals to understand the perspective of others within the team context has illustrated improvements, this is especially prevalent during the formation stage of teams (Williams, Parker and Turner, 2007). In Company 'A' due to the large period that has passed since the initial introduction of teamworking this advantage has potentially been nullified as teams are now firmly established. Any potential to take advantage of this point is only going to be realised when a new team is set up due to process change or the introduction of additional production capabilities, which does occur relatively frequently at the company.

The use of formal team training can also help make "*team members develop better skills to encourage informal knowledge sharing*" (Zhang, Venkatesh and Brown, 2011, p. 573). High skill levels appropriate to the task is an essential element especially in an aviation-based organisation such as Company 'A'. To yield this benefit it is important that team training is targeted to a specific area of interest to achieve the best results (Morgeson, DeRue and Karam, 2010). This can be focussed on areas such as safety training which has been



suggested to improved not only safety but offers other related benefits such as a reduction in lost time due to industrial injury and increased employee well-being (Edkins, 2002), both positive benefits that cannot be not easily ignored. It has been noted that Company 'A' does mandate team members complete regulatory health and safety training this system is considered pro-active and working in a satisfactory manner. Although on close examination it was found that this training is the bare minimum and possibly only delivered because its mandatory and non-negotiable.

It would be beneficial for Company 'A' to examine several significant studies that have been specifically completed in the aviation sector which sought to identify the skills and behaviours that result in more effective teamwork (Reader and Cuthbertson, 2011). The studies have been driven by the enormous human and material consequences associated with team failure in this safety critical based industry. They all essentially agree that the medium of training remains at the forefront of endeavours to improve team effectiveness, amplifies safety levels and helps mitigate any other potential problems (Kozlowski and Bell, 2003; WHO, 2009; Gillman *et al.*, 2016)<sup>23</sup>. They also concur that improved performance achieved through appropriate training can lead to a reduction of errors due to higher levels of team co-ordination (Salas *et al.*, 2001; Morey *et al.*, 2002). Therefore, proving that training interventions are very important because of the positive impact at both teams and their members (Aguinis and Kraiger, 2009). This argument is particularly poignant to aerospace-based organisations as a lack of team training has been linked to increases in latent failures, this is the reason why virtually all large airlines have embraced some form of team training (Reader and Cuthbertson, 2011). As Company 'A' is classified as an MRO within the aerospace industry the benefits associated with embracing team training are extremely suitable for leveraging across, so they can share the stated improvements. There are a considerable number of subjects who also agreed team training would be beneficial to them and their respective teams and help them be prepared for the situations they face; the following statements are particularly poignant:

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<sup>23</sup> The World Health Organisation (WHO) is a United Nations (UN) institution that's has the goal of building a better future for people all around the world it operates in over 150 countries and works with Governments and other partners to ensure the highest attainable levels of health for all people by attempting to combat various diseases (WHO, 2017).



*“...I do think it would be really beneficial for me to have some [training]. It would defiantly help in those situations where I really don't know what to do...”*

*“...With proper training, I feel that I feel that I would be better equipped to deal with tricky situations.”*

*“...It would also help with team conflicts and other awkward situations as well, the unfamiliar things we are not prepared for or know how to handle.”*

*“...I think it's got to the point here where team training is a must for all of us, what other business would arrange you into teams and not provide any training on how to actually do the method to the best of your ability? If you don't know how can you make the most of it?”*

When a team training initiative is launched the literature implies the program should consist of ongoing training and constant coaching. This allows members to be able to cope successfully with the complexities they will experience when participating in the method. This is supported by Guest (1997), Hackman (2002) and Morgeson, DeRue and Karam (2010) who all argue teams need education and training through a process of ongoing coaching, adding this systematic approach enables teams to reach ideal performance. There were also many subjects that believed appropriate team training would greatly improve how teamworking is practiced at the facility, be very welcome and widely accepted, the following statements offer support for this:

*“...I think it [team training] would defiantly improve teamworking and make it much more effective. Everyone will gain from it.”*

*“...Would help people quite a lot I think.”*

*“...Proper training would help us to work much better as a team.”*

*“...I think we could really benefit.”*

*“...I really think it would be a great idea and would be fully supported.”*

*“...Training, yes please I'm well up for some! Everyone would reap some reward from it.”*

*“...Training would be welcomed with open arms; we really need this to happen.”*

*“... [Team training] is essential to effective teamworking.”*

*“It really is a win-win situation.”*

There is also evidence presented in the literature that teamworking skills should be learned early in one's career especially when it is the management method of choice (Chakraborti *et al.*, 2008). This argument is fully supported by this research as subjects stated the following:

*“...I'm comfortable working in a team environment now but I must add that it was a little strange when I first started here. Then was the time that I needed training the most”*





*“...It did take time to get used to teamworking, it was all new to me when I started, training would have helped me be more prepared for it defiantly!”*

*“...If we had team training when we started teamworking here the teams would work better than they currently do.”*

*“...When I first started, I had never been in a team so didn't know what to do, I didn't even know this place run on teams, to be honest I was a little anxious.”*

*“...Some initial training would defiantly have helped me to settle in a lot quicker.”*

*“...The company would have benefitted a lot sooner from giving me the necessary training.”*

It is strongly believed that it is essential to provide proper induction and adequate training for new team members. This will help minimise the impact of differences that can be disruptive in the initial stages of a team's development or a team member's initial introduction to a team environment (EFILWC, 2008). There seems to be little doubt that team training should be fundamental to any organisation that embraces teamworking with a sharp focus placed on the development of skills and knowledge within teams to allow them to maximise the effectivity of being arrange as such. To save cost, Cannon-Bowers, Tannenbaum and Salas (1995) recommend that any training should be transportable not require repeated delivery or for individuals to be fully re-educated again later.

Further aspects of the literature state that team training programs should also cover the basics of teamworking and not be over-complicated neither should they be delivered in a standard form. The content must also be flexible enough to be applied to all teams within an organisation. This ensures there is not a constant need to re-qualify employees periodically after an initial period of training mitigating the expense and complexities of arranging regular repeat training. It is important for the schedule to be formulated locally with input from the teams, union and management to find the most suitable solution that serves the needs of all stakeholders. During the suggested consultation period, careful consideration would need to be given to choosing what training methods should be employed. This is depended on many variable factors including, what the teams learning objectives are, what level of maturity the team displays as well as what skills they presently exhibit or lack. This is something that would be determined after a robust assessment. Such an assessment would help make any training as cost-effective possible (Ostergaard, Ostergaard and Lippert, 2004). This strategy would also help stop any issues of presenting non-value-added training to the teams that



would effectively be a waste of time and money and could result in team members disengaging in any subsequent training sessions. The literature proclaims bespoke training to be paramount as what works well in one industry rarely translates to work in another (Hallencreutz and Turner, 2011). During interviewing many subjects relayed supporting comments including:

*“...The whole issue of team training wasn't thought through enough, not at all specific to the teams here!”*

*“...Management should have considered how teamworking was going to be implemented by offering specific training suited to this particular facility.”*

*“...Any team training would have to be specific to this industry not a standard package, this simply wouldn't be suitable and a waste of time and money.”*

*“...Proper team trainers should have been brought in that taught us about teamworking specific to just this site alone, everywhere company is different. If they had done that then we would have been given the right skills to fully embrace teamworking from the beginning.”*

*“...Teams were rushed in without any preparation, training should have been given that was explicit to this factory, teamworking here has failed to this day because of this to some extent.”*

The comments clearly illustrate that the team members are frustrated that Company ‘A’ didn’t consider specific team training when initially introducing teamworking. The negligible training that was delivered used a standard package based on the conglomerate parent company owners experience at other facilities which obviously were not suitable for this organisation when considering the viewpoints given. The need for specific training that is not standardised is supported by Reilly, Cummings and Bevan (2001, p. 20) who argue that *“unfortunately there is no ‘off the shelf’ solutions to team working systems, each case is different”*. There is claim is further supported by evidence from the analysis that reveals further frustration at the lack of specific training:

*“...Specific training applicable to our particular factory and teamworking requirements would have helped a great deal I think, it would have given people a lot more of an idea and made teamworking work better here than it does now.”*

*“...If we were asked at the time we would have given constructive feedback... This would have helped tailor the training to our meet our needs, as it stands we have had nothing.”*

*“...Specific training to our specific needs that's what's needed here, not something borrowed from somewhere else that has no meaning to us.”*

*“...They need to design a bespoke training package for individual teams that is suited to what we do here, our culture and the way that we actually conduct ourselves in teams.”*

*“...A team training package bought from some specialists simply isn't going to work. Every factory is unique and ours is a complicated business which makes it even more unique.”*



The previous statements are further supported in additional work by Cannon-Bowers, Salas and Tannenbaum (1995) who argued that the characteristics of the host organisation and the work environment as well as the team members receiving the training are crucial input factors to consider when introducing a reputable team training programme. Such schemes should always have content that is relevant to the organisational context and be of interest to the team members involved, this is supported by Kirkpatrick (1994, p. 27) who argues that “*if training is going to be effective, it is important that trainees react favourably.*” The transcripts support this as many team members indicate they would feel more engaged and stimulated if they receive unique training relevant to Company ‘A’, not a standard “*off the shelf*” package.

It is also important when organisations initially offer team training they also consider the learning culture present (Tracy, Tannenbaum and Kavanaugh, 1995), the corporate goals and values (Ford *et al.*, 1992), the nature of the interpersonal support for skill acquisition and the know what behaviour they desire to change (Bates, 2000). Further considerations include the climate present for learning transfer and the adequacy of material resources such as tools, equipment and supplies (Rouiller and Goldstein, 1993). All these have been shown to influence the effectiveness of both the delivery process and the outcomes of training (Bates, 2000). It is recommended that all these factors are considered during an assessment of the organisations team related training state-of-play. The training will aim to address shortfalls identified during the assessment and target essential skills that have been found to be weak or missing. These should also include training on assertiveness, maintaining shared situation awareness and promoting effective communication within teams (Salas *et al.*, 1999). As these additional team elements have been found to increase the quality of the team processes present and offer improved overall performance outcomes (Salas, Cooke and Rosen, 2008).

Some of the subjects suggested they had been practicing teamworking for a considerable amount of time and they now felt comfortable in doing so and possibly would no longer benefit as much from team training. This is supported in literature by Morgeson, DeRue and Karim (2010) who believe that highly experienced team members may not require as much training and development as members that are initially embarking on the teamworking journey. Further support is found in work by Assaf and Cvelbar (2011) who found employees that have many years of teamworking experience possibly perform their



roles by habit and are resistant to any change in their working methods rendering training unhelpful to some. Kunze, Boehm and Bruch (2013) also found that when team members are subjected to the same situation within industry for many years, the extensive experience can result in a mediating effect that is resistant to change which hampers the additional benefits found from delivering team training. This implies there is a point where it can be too late for some team members to benefit from any training due to the time elapsed since its inception. During interviewing a small minority of subjects alluded to this:

*“...I don’t think I would really benefit from training on teamworking now because I’ve been doing teamworking for nearly twenty years and I pretty much know what’s what.”*

*“...I’m comfortable working in a team environment now but I must add that it was a little strange when I first started here.”*

*“...I’ve been in a team for a long time now and it’s become second nature to me. I think some of the less experienced guys in my team would feel differently to me and they would possibly benefit.”*

It is evident from the comments cited that these subjects do not think they would benefit from any team training, they all share a large amount of service and have been working in a team structure in some form for over twenty years as one clearly states. This doesn’t mean that a newly launched program would not aid people with less service or people newly employed by the organisation, or even help experienced individuals whatsoever although they have clearly indicated that they don’t see any benefit. A full determination of this can only be made when more mature team members experience some form of team training, in effect it would be an empirical experiment of the more seasoned employees, a potential for future study possibly.

It is also apparent from the dialogue that some team members feel they were simply not properly prepared to operate as a team unit (Mohrman, Cohen and Mohrman, 1995). In hindsight, the organisation should have sanctioned proper team training at the beginning as this would have helped to foster more effective teams by providing them with the necessary KSA’s that is a primary support system for all teams (Sundstrom, 1999). Considering this there should be ample opportunities given to all employees for gaining new knowledge, sharing knowledge, continuing their professional development and furthering their education (Nancarrow *et al.*, 2013). Management are “*responsible for developing the underlying individual and team capabilities that enable teams to self-manage their actions*” (Kozlowski, 1998, p. 134). They are also accountable for driving change as it is their responsibility as



leaders of a company to ensure that employees continue to be trained and developed (Zaccaro, Rittman and Marks, 2001). This advice gives a clear mandate that managers should be developing and training their teams and effective team training and gives members the necessary KSA's to see beyond their own area of work, that there is a "*bigger picture*" present and their actions affect others in the subsequent processes. Other consequences associated with a lack of team training when applied in an aerospace context include occurrences of inadequate leadership, monitoring, failure in the delegation of tasks, pre-occupation with minor irregularities, ineffective assignment of responsibilities and setting of priorities (Prince *et al.*, 1992).

It seems that Company 'A' lacks induction training when new employees are taken on, this is not the case for the industry. There is compelling evidence in the field that most organisations in the sector do in fact make some formal effort to socialise new employees to teach norms, goals, values, induction and orientation team-based training (Anderson, Cunningham-Snell and Haigh, 1996). The literature does indicate that Company 'A' would see increased levels of engagement in teamworking if they incorporated some team training into an induction course and at the very least prepared employees to be able to participate and embrace the team management system.

The transcripts prove that team training would be generally be welcomed by many team members from all backgrounds but especially the relatively new employees who have under five years' service. This group has the most to gain as they are still learning teamworking. It is evident that this would have a positive effect not only on individual but also team morale and likewise influence favourable organisational performance; it would also help to reinvigorate and support further engagement by employees in teamworking at the facility, something that seems to be missing at present. The cost associated with a training program can be mitigated to reasonable levels as Company 'A' has a training department that could be utilised for the task. Likewise, it could be undertaken by employing contractors or putting the requirement out to tender if the resources are not available to support training in-house. Assessment and suitability trails should be executed of proven team training techniques including the popular Crew Resource Management (CRM) or Simulation Based Training (SBT) which is described as a powerful training methodology for frequently used with teams.



This would keep in mind the previous advice of delivering training that is relevant to the context of the operations at the facility. In the aviation sector, SBT training is extremely popular as it allows teams to engage in the dynamic social, cognitive and behavioural processes of teamwork and receive feedback and remediation on team performance (Gorman *et al.*, 2007) therefore offering a self-sustaining training method that aids team performance and awareness and is also bespoke to contextual environment.

No matter what team training is implemented it should be vigorously followed and not discharged after a few occurrences and then left. It also needs to be well-designed, systematic, be rooted in explicitly defined team competencies and theoretically as well as practically based and should employ effective measurement and feedback mechanisms (Salas *et al.*, 1999). This will allow team members to give their own opinion and offer ways to improve the training by having some influence over its content. Such a mechanism can be invaluable to the success of any team training packages.

The launch of effective team training program benefits an HRO because it can change member behaviour to help protect against errors leading to less safety related mistakes being made (Reader and Cuthbertson, 2011). Therefore, appropriate training is paramount in circumstances where *“errors lead to severe consequences; when the task complexity exceeds the capacity of an individual; when the task environment is ill-defined, ambiguous, and stressful; when multiple and quick decisions are needed and when the lives of others depend on the collective insight of individual members”* (Salas, Cooke and Rosen, 2008, p. 540). All of which can be applied to the work that is undertaken at Company ‘A’, such advice can only act to further support the introduction of a meaningful system of team training at the organisation.

Cross training also needs to be assessed, this is an important aspect of intra-team training, defined by Volpe *et al.* (1996, p. 87) as *“an instructional strategy in which each team member is trained in the duties of his or her teammates”*. The sharing of knowledge between fellow team members is a particularly effective team training strategy (Marks *et al.*, 2002). To ensure the longevity of teamworking at Company ‘A’ and support ongoing operations then the knowledge held within the teams must be shared amongst members to have the maximum level of impact on team performance (Smith-Jentsch *et al.*, 2008). The current state of



knowledge sharing at the facility is healthy. This is supported by most subjects who shared the following comments regarding team cross-training:

*“...I learned teamworking on the job from the other guys.”*

*“...It’s just a matter of working with other people, getting on with them, that’s how you learn.”*

*“...The training off the guys on the shop floor is the only real training you get so it’s the best currently on offer. Luckily, people are happy to share their knowledge.”*

*“...We have a good system for team training within our team for learning the job, we learn off one another.”*

*“... I think the company needs to look at this and consider the whole team training issue to be honest. Training could be done better.”*

*“...We learn off the more experienced guys, its ok but defiantly could be better.”*

*“...There is no formal way of the more experienced fitters passing on what they know, its ok but defiantly could be better overall.”*

*“...Team training on the job is very good the guys are very helpful, especially when you first start, they teach you how the teamworking thing works.”*

The transcripts clearly indicate cross-training is accomplished by all the teams at Company ‘A’ in a very efficient and effective manner. Cross-training is very valuable as it offers the opportunity for organisations to somewhat future proof their operations. Its goal is to enhance team members knowledge of interpersonal activities by introducing them to the bespoke team roles and responsibilities as accomplished by their fellow teammates (Marks *et al.*, 2002). So, team members train each other on their job roles and shared responsibilities for doing so (Blickensderfer, Cannon-Bowers and Salas, 1998). This also offers hidden benefits such as redundancy in times of annual leave, times of absence and increasing the available resource skill base.

After some scrutiny, it become evident that Company ‘A’ has over the last year and a half been divesting the workforce to enable them to train on other jobs with other teams, this is something that was not previously accomplished. It was not introduced before due to several reasons, these include sensitivities with the trade union, possible conflict with the established quality system and some of the documentation was not set up for such activities. The recent change in working practices was brought about by a downturn at the facility which resulted





in job losses. It has increased flexibility and productivity and reduced the amount of unbillable down time which has helped to improve profitability and OCPH and strategically stabilised the plant. From the interviews, it is evident that the facility has adapted positively to this period of reorganisation and employees are enthusiastic about the changes all because of an effective system of cross-training is active. The many benefits found is supported by work from Harris (2012) who believes cross training is effective because it allows companies to quickly reorganise and adapt to its new structure. Further support is offered by Abrams and Berge (2010, p. 523) who found that “*cross-trained employees allow employers the flexibility of tasking their existing employees without the urgent need to hire new people*”. Richardson (2009) argues that cross-trained employees have better mobility within an organisation and can switch departments with relative ease because they are familiar with the tasks. This is certainly the case within Company ‘A’ because employees now understand the production concept across departments, this makes them able to contribute more creatively and offer innovative ideas and perspectives (Lahouze, 2009), with the objective of developing shared interposition knowledge (Volpe *et al.*, 1996; Cannon-Bowers *et al.*, 1998; Cooke *et al.*, 2000), therefore a very successful initiative.

The strategy applied by Company ‘A’ encourages team members who engage in cross-training to actively follow positional clarification, which is receiving information on other roles, they are also subjected to positional modelling which is observing other roles and positional rotation which is the experience performing distinct roles from members first hand (Blickensderfer, Cannon-Bowers and Salas, 1998). The methods described have all been found to be very effective types of cross-training and very effective in the development of shared knowledge which ultimately improves team co-ordination and performance (Marks *et al.*, 2002). Some of the comments from the transcripts support the assumption that the process of cross-training seems is very effective with the subjects very positive in their comments:

*“...I learned the job off the other guys on the section by cross-training and shadowing them, it worked out well.”*

*“...Everyone on the shop floor is glad to share their knowledge so people like me can learn teamworking and the job roles and responsibilities.”*

*“...We have a good system of on the job training here we use a matrix, so we know exactly what we can do and what we need to learn.”*

*“...I picked up the job easy enough by cross-training with the team.”*



*“...All the guys trained me when I started I learned off others on the job, fair play it was really good training.”*

*“...We have a good system of cross-training for the job, we learn off one another, there is a financial incentive to once we are competent.”*

Further benefits of cross-training include such initiatives allow team members to quickly share knowledge and anticipate each other's needs because they have the necessary knowledge to communicate efficiently and/or co-ordinate implicitly when under stressful situations (Cannon-Bowers *et al.*, 1998; Stout *et al.*, 1999). They can also quickly adapt to the changing demands of the task environment (Fiore, Salas and Cannon-Bowers, 2001). Additionally, team members can quickly aid others when they are busy or in demanding situations due to high workload or time pressures. This flexibility results in elevated levels of team performance as there are more people to share the work (Entin and Serfaty, 1999). This is especially true for busy times at Company 'A' such as end of month, end of quarter or end of year when the company's workforce is pushed hard to meet or exceed set targets. Areas that prior to the introduction of cross-training were subject to highly fluctuating levels of work, which is now all but eliminated. Overall the current team training program requires attention by Company 'A', cross-training however is working satisfactory. This will be discussed in greater depth in the upcoming conclusions and recommendations chapter.

### **5.3.2 'The Significance of Established Roles and Responsibilities to Teamworking'**

There is a lot of prominent literature that positively identifies that good structure around roles and responsibilities is essential to organisations that embrace teamworking. It has been well documented that teams require the right number of members with the appropriate mix and diversity of task and interpersonal skills to ensure they are successful (Mickan and Rodger, 2000). During the introduction of teamworking it is essential that the team roles and responsibilities are developed in ways that make them relevant, indispensable and essential (Guzzo and Shea, 1992). Belbin (1993; 2010) identified that there are nine team roles of which everybody has two or three which naturally fit their personality. For the team to operate effectively then all nine roles need to be represented and practiced by members (Pries-Heje and Comisso, 2010) as each one provides a critical yet unique contribution to the team's overall collective actions (Marks, Mathieu and Zaccaro, 2001).



It is indeed true that some roles suit some people better than others, it is also a necessity that all team members respect and understand one another's roles and responsibilities, and everyone is aware of limitations and boundaries of each, this ensures team harmony (Nancarrow *et al.*, 2013). Team members should also be fully aware of their obligations when performing roles and understand how their own role fits within the team. It is therefore vital that roles are properly defined without any ambiguity (Day, 1998). This helps to reduce conflict, bonds team's together, aids predictability and openness, as well as increases collaboration and trust within the team (Adams and Anantatmula, 2010).

To ensure maximum team utilisation it has been suggested that there must be balance present between the homogeneity and heterogeneity of member's skills, interests and backgrounds (Hackman, 1991). Homogenous teams are composed of similar individuals who complete tasks efficiently with minimal conflict while in contrast; heterogeneous teams incorporate membership diversity and therefore facilitate greater innovation and problem-solving skills (Pearce and Ravlin, 1987). It is therefore essential organisations clearly define the expectations and mechanisms of accountability for all teams (Sundstrom, DeMeuse and Futrell, 1990). It is also important that team members are fully aware of what their actual roles and responsibilities are within their respective team (Fapohunda, 2013), to enable maximum efficiency, as it is only when team members perform well in a role and as a collective that there is a positive contribution to the whole team's success (Zaccaro, Rittman and Marks, 2001). It has also been found that when employees are fully aware of their responsibilities as well as others then they make less mistakes (Volpe *et al.*, 1996; Sims, Salas and Burke, 2004; King, Goudie and Dominey-Howes, 2006; Smith-Jentsch *et al.*, 2008), a vital characteristic in the aviation industry. Looking further, Sims and Manz (1996) found that teams must have legitimate and value-added roles and responsibilities otherwise members will fail to fully embrace teamworking, managers also need to offer encouragement by providing positive feedback. It has also been found that teams function better when they share a mutual understanding as to what the tasks are and the role that the members need to play within them (Mathieu *et al.*, 2000). They should be also intrinsically rewarding, as members tend to be more committed and creative if the tasks they are performing are engaging and challenging (Guzzo and Shea, 1992; West, Borill and Unworth, 1998; Borrill *et al.*, 2000).



As discussed, all team members working at Company 'A' must participate in five-core team roles as well as performing their day-to-day job of supporting production. The five roles involve production, EHS, quality, tooling and lean and are known in the organisation as "Starpoints". The establishment of robust roles and responsibilities eliminates the challenges teams often face when there is an absence of formal role structures (Crowston, Wiggins and Howison, 2010). This is vital because members will perform at their very best when their roles are characterised as being "clear" (Figl, 2010, p. 326), well-defined, fundamental to business operations and are properly considered and implemented (Humphrey, Menor and Morgeson, 2009). There also needs to be appropriate infrastructure to be put in place and a systematic approach that ensures all members contribute (Harris and Harris, 1986; Wageman, 1997). Crucially, there must also be an appropriate delegation of responsibility ceded by the organisation which allows teams to become confident in supporting the roles they are expected to do (Capko, 1996). This is an essential aspect of effective teamworking which needs full support of the host organisation. During interviewing subjects agreed the team roles currently promoted at Company 'A' are clearly defined and well-liked:

*"...Yeah, the "Starpoint" roles work well on the whole. They could do with a little updating from time to time, a refresh maybe and a bit of feedback from us guys would also be a good thing."*

*"...The "Starpoint" roles I think are fit for what needs to be done and they achieve what they set out to do."*

*"...The "Starpoint" roles are working well, but they could always be better."*

*"...We all participate in the "Starpoint" roles and do our turn, we know what is expected of the roles when we are doing them, this is relatively clear and well defined."*

*"...The roles are relatively clearly defined from our point-of-view."*

*"...I like participating in all the team "Starpoint" roles so do most of the other guys, it gives us a chance to do something else, we know what's expected when we do them we have been doing them for years now so should do."*

*"...Yes, I really like doing all the "Starpoint" roles! I like having a say in the way things are run here, I find it interesting."*

*"...We have a pretty good understanding of each other, we all share the team roles, we all pull together as we are close, and we head in the same direction. My team likes to participate."*

*"...We all share the team roles, we all pull together as we are close, and we head in the same direction to make it happen."*



The transcripts illustrate that the “Starpoint” roles and responsibilities are clear and team members know what is expected from them when performing such roles, it is also evident they are distributed fairly and practiced regularly by nearly all the team members. During the dialogue, there were some comments that revealed some team members don’t like performing the roles or have become a little resistant to fully embracing them. Although only limited evidence was present, this is a cause of concern as reduced enthusiasm or reduced participation for any of the roles can lead to them becoming ineffective. This can have a negative influence on organisational performance because the functions that fall under the “Starpoint” umbrella are not being properly carried fulfilled. This can develop into a severe problem with lots of potential negative consequences such less efficient teamworking, loss, stagnated or slower production as well as necessary strategy and communications not being flowed down properly to the teams, some comments include:

*“...Most of us don’t mind doing the “Starpoints”, not everyone tho! Some people do try and get out of doing their turn, they are not interested.”*

*“...You obviously get the odd one who doesn’t want to do it, but everyone does them eventually, it’s part of teamworking.”*

*“...We get on with it and take our turn, not everyone wants to get involved, but everyone does it, maybe a little reluctantly but we all do them in the end, there is no choice of opting out of your turn.”*

*“...Some of the boys like doing some of them more than others, but as a team we work together, take our turn and get on with it.”*

*“...There is a small minority who don’t want to do any of the “Starpoint” roles, they believe they should be fitters not office staff... But as we are in teams then we must stick together and make sure everyone takes their turn, there is no option to not participate, it would be very unfair on the others.”*

*“...In teamworking everyone shares responsibility for the “Starpoint” roles, not doing it isn’t an option, if it was a choice I’m sure some people would duck out of it but as it stands it’s not and we all have to do it, that’s the fairest way to.”*

*“...I think there is a perception that the “Starpoint” roles are a something and nothing role within teams because it’s not being done properly, so if it’s not being done properly what is the point of even doing it. That’s why some people don’t like doing their turn.”*

*“...There is defiantly a difference in the quality of information that comes from some of these meetings; it really does depend on the individual. The enthusiastic ones will tell you everything and not miss any information out. The guys who don’t want to do it give poor feedback and say hardly anything, it’s a pity really it affects us all.”*

Within the team environment it is fair to argue it is very important team members equally share the burden of playing a part in the team roles and responsibilities. Blanchard (1997) suggested that full participation helps avoid any form of team dysfunction from



forming or festering. There must also be accountability present for the team to share the administrative workload and likewise the repercussions if they are not performing properly. At Company A' this is something that is currently not present in any form, these comments support this assumption:

*"...They [Management] tend to 'flog the willing horses' with the "Starpoint" roles, if you're good at it they come to you and avoid someone who doesn't care less. If you don't care, you don't face any sanctions that's the issue"*

*"...There are naturals for all roles, the company does tend to lean on the ones who are enthusiastic, in the end tho people lose interest because they don't want the continuous burden that is unfair."*

*"...There is no accountability attached to the "Starpoint" roles, if you do one well you get management on your back, if you do it bad they leave you alone. Makes you think is it worth it half the time, accountability is nil."*

The management at Company 'A' should also strive to ensure that there is no unnecessary pressure placed on the more enthusiastic team members and they don't get left to carry the burden alone (Porter *et al.*, 2003). Therefore, it is essential all team members act fairly as a collective (Guzzo and Salas, 1995) to help maintain elevated levels of team effectiveness and efficiency as it is the team not individuals alone that hold the key to the businesses success (De Meuse, Guangrong and Lee, 2009). Furthermore, teams must effectively combine resources and work together towards the achievement of a common goal (Matthews and McLees, 2015) and equally share the responsibility for achieving goals (Parker, 1990; Mickan and Rodger, 2000; Katzenbach and Smith, 2003; Boddy, 2008; Prosser, 2010). Indeed, full team co-operation is crucially important to the very fundamentals of teamworking which trust, confidence and commitment are (Harris and Harris, 1996), generally if someone isn't doing their share of the work this will result in a form of conflict within the team which can be clearly seen from the tone of some of the transcripts.

Organisations are also advised to not make team roles too rigid and allow them to be subject to modification if enough people think it's appropriate. When the structures are too inflexible it can become counterproductive (Cox, 2006), they also need to be supple enough to accommodate individual behavioural differences (Blechert, Christiansen and Kari, 1997). This approach allows team members to offer unhindered input when required without feeling compelled to or intimidated or they feel the need to withhold information. From the





transcripts, it can be seen team members are sometimes reluctant to take responsibility for making decisions when executing a team role, possibly a consequence of the roles being too rigid, and members being given no input into their structure since their inception. This is a commonly found in a team environment and concurs with the literature (Yang, 2010).

A further necessity that needs to be present in team roles and responsibilities is motivation, Sundstrom, De Muse and Futrell (1990) warned that for tasks to be a success then they need to be motivating for members and only then will they want to share responsibility with the rest of the team. There were many issues found in the transcripts regarding the amount of time allocated by Company 'A' to successfully participate in the "Starpoint" roles, this is a source of de-motivation which can be seen from the following comments:

*"...The Quality and Safety "Starpoint" meetings are a little hit and miss, it gets on our nerves to be honest!"*

*"...The Quality and Safety "Starpoint" meetings are a little bit stop and start, they are often cancelled at short notice and sometimes there are no meetings at all for a prolonged period. It is frustrating sometimes."*

*"...The quality meeting tends to have unpredictable patterns, it's on it's off, it's on it's off... And, the health and safety one as well I don't think they have meetings regular enough either."*

*"...Look at the EHS and Quality meetings, these are often allowed to lapse... We stop going then they get re-invigorated months later, this has happened again and again over the years."*

*"...The lack of various meetings is a bone of contention; they are often cancelled at short notice and then left for weeks before we have another one, either the company wants the roles or not they have to decide."*

*"...The Company does stop us attending EHS and Quality meetings when we are busy especially round end-of-quarters or month ends. They have also restricted the meeting to just half hour at times which isn't really long enough to discuss all the issues that we want to."*

*"...Some people really can't be bothered to engage anymore in meetings as they feel it is a waste of their time and energy, nothing gets done, some people would rather be turning spanners than talking for the sake of it just to tick a box."*

If Company 'A' has a desire to maintain members enthusiasm for the team roles and responsibilities the appropriate infrastructure and support needs to be made available. All meetings should be formally structured, accountable and "Starpoints" should have adequate time to discuss relevant matters. Training should also be given to equip all team members with the appropriate KSA's to undertake the roles to the best of their ability. This will allow the organisation to get the highest levels of proficiency and engagement achievable. From the transcripts, there is quite a bit of frustration present because meetings do not follow regular





or predictable cycles and can be called off at the last minute or the amount of time allocated falls short of what is needed for an effective exchange. In general, highly effective teams that deliver the best output that often exceeds targets and expectations (Lencioni, 2002) are the ones that have well-defined team roles responsibilities, have appropriate team infrastructure underpinning them and possess clear goals that are performed by competently trained personnel (Hertel, 2011), this is critical for employees to remaining engaged in their specified roles (Harter *et al.*, 2009). All these factors are clearly essential, and one must question how can team members be expected to perform to the best of their ability when they have not been trained to do so and don't know what's required when participating within them and have no accountability present either.

Another important caveat for the successful introduction of team roles and responsibilities is they should be introduced gradually (Carroll, 1986). It has been found that teams become motivated by obtaining additional responsibility and autonomy (West and Markiewicz, 2004); but this needs to be ceded in incremental stages (Wellins, Byham and Wilsen, 1991). From the interviews, it was found that Company 'A' removed the structure responsible for many of the "Starpoint" roles completely at very short notice with no "honeymoon" period for personnel to get used to performing as teams, practically overnight they gained full team responsibility, they indicate support for the literature and believe that an incremental approach would have been more suitable:

*"...The supervisors disappeared overnight, one day they were here the next they were either laid off or had a choice to work on the tools or do something else. Suddenly we were running things and we didn't know what to do, it was a crazy decision just to remove them thinking back."*

*"...We went to teamworking years ago, it wasn't brought in well, it was rushed in just to please the big guns in the states."*

*"...The power went to the team's heads it was abused in the beginning. Then the company brought in the middle managers to get some control back."*

*"...Not transition period it was just brought in rushed, not good way to do it, the business suffered for years until they brought back in a bit more control."*

*"...When teamworking first started, it was a case of 'the lunatics running the asylum' until management got a bit more of a grip. People were at it all over the place. It wasn't thought through properly, granted it's a lot better now but it went on for a long-time."*



There is a hint of a state of confusion being present as teams assumed full responsibility for all the “*Starpoint*” roles and responsibility in a very short period. This resulted in some employees feeling disgruntled and perplexed at their new-found authority. Obviously, this is an undesirable start for a new management expedition and a strategy the literature is united in cautioning against. There are many issues present with the team roles and responsibilities in their present form at Company ‘A’ there are several points that need to be subjected to modification and further assessment to ensure they are value added and remain relevant and member continue to be engaged, the potential solutions will be further explored in the next chapter.

### **5.3.3 ‘The Use of Incentives to Enhance Team Performance’**

There are many incentive schemes that can be used to increase productivity and improve performance in team-based organisations. There are three main schemes to consider, one is given to everyone in an organisation, an inclusive scheme where all members are equally rewarded. Another is applied to distinct teams alone where members are compensated for their efforts and the final category is when individuals alone are given a reward. The incentives can come in many different forms, including public recognition, preferred work assignments, additional money, vouchers, enhanced annual leave, days out, team building exercises, the list really is endless.

Presently there are no incentive schemes operating at Company ‘A’. During interview the subject was explored to see what the appetite for such schemes amongst the production area personnel. When considering all the discussion points visited this was the subject that provoked the most passionate responses. Subjects were very verbal, they either were extremely enthusiastic and stimulated by the thought of incentives being introduced or they illustrated total opposition, become very concerned and emotive. It was also the one subject that illustrated the least consensus amongst subjects with a wide disparity of opinion given. Some of the positive comments received around the introducing an incentive scheme included:

*“...Incentives? I think would make people work harder and be more conscientious, defiantly.”*

*“...If the company said we’ll give you a monetary award then I think that will make people pay more attention to their job.”*



*"...It's not a bad idea, I'm sure an incentive scheme could be good."*

*"...I overall I think it would be welcomed."*

*"...Incentives can be a good motivator."*

*"...I really can't see any bad points."*

*"...Incentives I think would make people work harder, defiantly."*

*"...Bring it on; I think our team would love to have an incentive scheme introduced."*

*"...A new incentive scheme would be good for the entire workforce."*

*"...I think it would lift moral substantially."*

*"...Make a lot of people work harder."*

The positions cited do offer significant support for some of the positive literature available concerning incentives. There are many studies undertaken that have found team rewards as being particularly helpful and present important implications for the development of effective teamworking and improving team performance (Tata and Prasad, 2004). The fact that rewards are team-based can lead to the initiation of increased interdependent relations between previously un-cooperative teams and members. This is because such schemes promote accommodating behaviours and encourage the development of norms, they also aid the fair distribution of work (Aime, Meyer and Humphrey, 2010).

During some interviews as discussed there was also a substantial amount of concern regarding the introduction of an incentive scheme. Out of the subjects that did not welcome such a scheme the reasons given included the possibility of disruption, implications for product quality and possibility of creating dis-unity amongst teams. Some illustrated a former unofficial scheme as an example that was used to reward teams and enhance production during busy periods. They claimed that the incentives given led to significant resentment and some extremely bitter feeling between teams and members. Although this faction was in the minority they did offer some strong opinions:

*"...Its dangerous territory pitting one against the other, look at recently when we had a few golds and a day off [an unofficial concealed award scheme exclusive to one area] during end-of-quarters, they were used to get us working longer hours. We all loved it, but in the end, we got greedy, we were just 'chasing the money'."*



*“...There was a farce with awards before, it had the opposite effect on some sections, it made everyone else [REDACTED]<sup>25</sup> off and bitter, not everyone was treated fairly.”*

*“...Ooh, I don't think that an incentive scheme should be brought in, it would cause to many conflicts between teams... You'll get the teams divided. They will only serve to alienate the rest of the factory.”*

*“...If you start breaking it down to individual areas having incentives and bonuses, then it basically starts making little sub factories out of the whole place.”*

*“...The priority was to 'do the job right first time' that has gone out of the window now, it's all about times now and trying to reduce them.”*

*“...An incentive scheme made things worse I think, it put even more pressure on the teams to produce faster output, it didn't work last time.”*

*“...Managers are trying to make this shop into a production line, but it's not a production line, no, it's an overhaul shop and if your top boss is preaching that safety and quality come first how can we work faster.”*

*“...I don't think that an incentive scheme should be brought in, it would cause conflicts between teams, you'll get the teams divided, like before.”*

*“...Incentives can give a false sense of motivation.”*

*“...Not sure it would be suitable due to the nature of the work we do here, we can't cut corners. It wasn't fair before when others got loads of rewards and everyone else go none!”*

The opinions give support for the negative aspects associated with incentives stated in the relevant literature. They are strongly criticised for being responsible for reducing team co-operation and have even been found to possibly create a culture of sabotage in organisations during some studies encouraged by the additional benefits (Lazear 1989; Drago and Garvey 1998; Carpenter, Matthews and Schirm, 2010). This is a crucial area of concern especially in a safety critical HRO, the interviewees also raised this point:

*“...Would people start rushing jobs? Would it lead to quality be overlooked?”*

*“...People could start rushing or choosing the quicker jobs affecting our quality”*

*“...Everyone would be thinking of themselves not working together as a team.”*

*“...Hurrying affects quality, we cannot compromise on that here.”*

*“...People would rush, safety and quality could be disregarded.”*

In an operational context at Company 'A' there are only limited opportunities to significantly change production schedules. Any changes made in favour of influencing the outcome of an incentive would be viewed as highly undesirable and would likely invoke disciplinary proceedings. This is due to the safety critical nature of the work performed by the

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<sup>25</sup> Profanity removed to preserve thesis professionalism.



organisation being particularly heavily regulated, with zero tolerance allowed for non-conformance by the company's quality department with regards product quality. Furthermore, each process is clearly defined with rigid legal parameters and work instructions also firmly rooted. When completing tasks in the facility everyone is responsible for completing their own part of the process in a safe and compliant manner, there are clear lines of accountability regarding product quality and safety. Aircraft engineers are required to provide proof of task completion by means of their own unique stamp and number which endorses a legally binding document. This is retained and can be used to trace every task performed during the engine or components shop visit, from receipt to dispatch, wing-to-wing. Furthermore, there is limited evidence that encouraging employees to rush production driven by offering rewards can be deemed counter-productive to product safety and fraught with difficulty when attempting to apply them fairly.

When looking at studies from the field many have found that offering monetary incentives for increased productivity often results in insignificant or at best modest results (Babcock *et al.*, 2012). Further criticism is offered by Dumont *et al.* (2008) who found that lowering the amount of incentives on offer once a certain level has become customary can lead to less effort being exerted on the measured tasks but strangely higher effort on the tasks that received no reward. It has also been claimed that employees may be prepared to take greater risks from a personal safety and product perspective that they would of prior to an incentive being is offered (Rayo and Becker, 2007). It has also been found that team members can also start to gamble the system and strategically apply their efforts to affect future goals allowing them to gain additional incentives by falsifying the true rate of production (Delfgaauw *et al.*, 2010; Frank and Obloj, 2013).

It was encouraging to find that there were most interviewees who supported the introduction of a facility wide incentive scheme. Several were steadfast that it would only be welcome if everyone benefitted at the organisation and rewards were equally distributed, there was limited enthusiasm for an individual or team only based scheme. This was perceived as positive because it signalled subjects favoured sharing the rewards of such a scheme and were therefore acting in good faith, a strong principal associated with cooperative teamworking. This also reflected that production-based employees have a unified outlook and like to operate



as a collective unit. Such positives only serve to elevate cohesion and is a very constructive and encouraging trait, some of the comments received that include:

*“...If it was brought in [incentive scheme] then either, it should be given to everybody who works here, or no one gets it.”*

*“...If such a scheme was launched it should be equally applied to all employees no matter where in the business their job is based.”*

*“...Everyone gets the same amount no one has any more than the next person.”*

*“...Think for everyone’s sake, a new scheme would have to be fair, everyone has got to have a bite of the cherry, if not then just leave things as they are.”*

*“...I would personally favour a scheme that would include everyone not individuals alone.”*

*“...To keep things fair and even, the teams, the union and management would have work together every step of the way.”*

*“...Its structure must be carefully negotiated.”*

The opinions are offer support for the relevant literature that indicates team performance is most effective when rewards are administered to the whole organisation and not just to individuals or teams alone, they also aid collaboration and foster effective communication better than individualised work (Hackman, 1991). Therefore, complementing the arrangement of work into teams. Indeed, it has been regularly found that effective incentive schemes are not primarily about pursuing one’s own interests, instead, they focus on the team and the organisations goals and objectives (Sorauren, 2000). If the organisation did proceed to launch an incentive scheme, then it is clear from the interview dialogue that it would have to involve all employees and comprise of realistic targets. This is reflected in some of the following passionate comments:

*“...It must be carefully implemented as it can get dangerous because it’s got to be properly considered and then controlled.”*

*“...You’ve sort of got to find the balance; it’s quite a fine line... One issue could be if you give employees a monetary award for Q1, then you don’t give them one for Q2 this could make their performance drop off permanently.”*

*“...It could have the opposite effect and cause moral to slip.”*

*“...The last thing I would like to see is sections pitched against other sections, back biting etc. just to earn more than the next guy. It needs to be companywide if it ever was brought in.”*

From a team perspective, the statements offer staunch support for work by Reilly, Cummings and Bevan (2001, p. 20) and Reilly (2005) who argue that “*trying to create a team culture through team-based pay is fraught with danger.*” The subjects clearly allude to the



dangers of implementing a scheme that is limited to selective individuals or teams alone for the benefit of single incentives. The dangers of causing teams to become competitive with one another are further emphasised by Kettler (2000) who argues that due to the importance placed by employees on their pay cheque, if anything does go wrong then it can result in serious dysfunctional consequences for whole of the host organisation. Armstrong (2002) added to the negative findings by arguing that although some schemes look beneficial in theory there are some formidable disadvantages, one being the criteria for defining success is challenging, adding it has not been proved incentives will inevitably be effective even on an organisational wide scale.

Further negativity around the matter is given by Kirkman and Shapiro (2000) who argue that some employees who are not receiving additional incentives may feel injustice and upset especially if they are receiving lower compensation than their fellow colleagues. It has also been argued that individual incentive schemes can result in decreased levels of help that team members are prepared to offer others (Encinosa, Gaynor and Rebitzer, 2007). Another unlikely casualty is the team decision-making processes which can be negatively influenced driven by the short-sightedness of gaining maximum incentives (Drago and Garvey, 1998). Other difficulties include how to assess individual's contribution within teams to pay the appropriate rate of incentive earned and how such an imbalance can cause previously high achieving employees to lose motivation and even start to free-ride (Suff, Reilly and Cox, 2006). This is an argument clearly given by some of the subjects during this study, comments include:

*"...The last thing I would like to see is sections pitched against other sections, back biting etc. just to earn more than the next guy."*

*"...Incentives could leave people chasing the money and demanding more and more, possible upsetting the team appletart and causing disruption and disheartening people."*

*"...Teams would be in competition with each other and the work we do on our section is not that type it's not evenly distributed so it would be easy for some other sections to earn more creating friction."*

*"...Some areas would benefit disproportionality more than others; that wouldn't be good it would cause possible conflict and hostility."*

Overall when consulting the literature, it is suggested that when rewards are given to an entire workforce they can lead to increased cooperative behaviour although this has been





found to be inaccurate when applied to individuals (Shea and Guzzo, 1992; Bamberger and Levi, 2009). As a compromise Hackman (1991) recommends balancing the more traditional individual rewards with team-based incentives or make them contingent upon the whole organisations performance which puts the emphasis on co-operation rather than competition. This position is however given limited support by the interview transcripts, the outcomes will be further investigated in the subsequent chapter.

#### **5.3.4 'The Process of Making Decisions Within Teams'**

Decision-making is described as a basic function of management that can contribute significantly to either the success or failure of an organisation (Pušeljić, Skledar and Pokupec, 2015). In an organisation that manages by teamworking, the authority for teams to make decisions plays a key role (Kerr and Tindale, 2004; Mannes, 2009). It is classified as one of the major needs of team members (Verzuh, 1999). Furthermore, it has been argued that it is essential that teams are involved in organisational decisions as without such powers the very survival of an organisations team initiative can be placed in doubt (Serinkan and Kızıloğlu, 2015). This is because team members naturally expect increased control, influence and participation in the process (Yun *et al.*, 2007). The style in which they apply the process also appears to play an influential role in team effectiveness (Yang, 2010).

The outcomes associated with decisions are a product of information trading (Cheney *et al.*, 2004), it is a very common activity undertaken daily which involves selecting the best alternative from two or more options to achieve a specific pre-defined goal (Lunenburg, 2010; Hashim, Alam and Siraj, 2010; Anisseh and Yusuff, 2011; Ismail, 2011; Jinbo, Xiefeng and Ming, 2011). It is very important; therefore, the matter has been studied extensively (Xiao *et al.*, 2014).

It has been found that when teams make decisions there are many benefits associated with such. They include the removal of individual biases, mitigates overconfidence and hindsight bias, this inclusive process has also been found to result in better decisions being made (Mussweiler, Strack and Pfeiffer, 2000; Larrick, 2004). It can however be a very complex function as it encompasses a collection of interdependent activities that involve gathering, interpreting and exchanging information; as well as creating and identifying a course of action and assessing alternatives to pick the most suitable compromise. In a team



environment, everything must be achieved by integrating the various perspectives given by team members, the choice must then be implemented, and their consequence of the chosen actions monitored to ensure their suitability (Sukthankar and Sycara, 2009). During interview, every subject indicated that in their respective teams the decision-making function is always conducted in a fair and democratic fashion. Very encouraging comments were given that illustrate how robust the process is, this also offers substantial support for what is stated in the literature, some encouraging comments include:

*"...When decisions are made by the team they got to be talked in as much depth as is required then they are voted on democratically."*

*"...We make decision by majority."*

*"...In our team, we've all got one vote."*

*"...We talk them through the issue together as a team, one individual alone doesn't make the decisions it's done by majority voting."*

*"...Every team I've been in uses majority voting, one person one vote, if someone isn't present we will go ahead and vote unless it's a particularly contentious problem, then we would wait till everyone was present."*

*"...In my team, we make decisions by a vote; we use a show of hands; each team member has got one vote each. It's simple and fair, the majority wins."*

*"...No one can really argue with it as it's democratic and transparent."*

*"...We make decisions by consensus. You have to go with the majority, I think in a team, there is no alternative, it's democracy at the end of the day, isn't it?"*

*"...The team is fair and if we did need to vote, it would be by a show of hands in a democratic style whatever the majority was would be carried."*

*"...Democratically it's important to make sure everyone who is affected is present."*

*"...The teams always use democracy when making a decision, the majority rules, that's my experience."*

*"...You have to go with the majority, I think, in a team there is no alternative. It's a democracy at the end of the day, isn't it?"*

The comments given offer support to several aspects of the relevant literature. Harris and Harris (1996) argue for instance that team members should be respectful and supportive of one another's opinions and realistic in their mutual expectations. They should take their time to listen to all ideas and opinions (Critchley and Case, 1986) as a broad contribution of knowledge that is given by members of a team offers an increased amount of information that helps to generate more legitimate decisions (Mickan and Rodger, 2000). It is essential



members engage in open dialogue and communication (Bradley and Frederic, 1997; Kets de Vries, 1999) that culminates in a spirit of constructive feedback (Harris and Harris, 1996) as fully informed team members who participate in the process can illustrate higher organisational commitment and increased performance (Blechert, Christiansen and Kari, 1987; Wakeling, Beatson and Purcell, 2015).

All team members should feel free and comfortable offering their opinion and be prepared to accept that after a decision is made by a majority then it must be accepted in a non-defensive manner (Harris and Harris, 1996). Decisions made by consensus (Critchley and Case, 1986) ensures that everyone participating in the process feels equal. Such practices limit interpersonal conflict (Green and Taber, 1980) which helps to further enhance team unity. All teams at Company 'A' utilise democratic methods during their decision-making, the following extracts taken from the transcriptions support relevant literature and illustrate the strong feelings of sincerity and strength of the current democratic process:

*"...The teams always use democracy when making a decision, the majority rules."*

*"... We make decisions by majority."*

*"... Every team I've been in uses majority voting, one person one vote."*

*"... In our team, we make decisions by a voting; we all got one vote, we use a show of hands."*

*"...It's simple and fair, the majority wins, it's democratic and transparent."*

*"...We make decisions by a majority."*

*"...We make decisions by consensus... We all have a chat about it and just go with the majority."*

*"...You have to go with the majority... It's democracy at the end of the day."*

It is important that teams do not dwell on issues for too long, the interview subjects alluded to this during interview. They described how things can become a little heated when decisions are being made occasionally but once the process is completed the team members don't hold grudges and quickly move on. If people are particularly vocal or disgruntled at a decision, then there is some flexibility present in the current process:

*"...We make decisions in our team meetings... Normally it results in a bit of an argument... We clap heads just a little bit, but in the end, it gets laughed at, it will always get settled... Nothing stays at loggerheads; a decision is always found."*

*"...Even if the vote does not go their way they've said their piece, and most are satisfied with that...This is what teamworking is all about isn't it, respecting each other, working as a team, acting as one!"*



*“...If someone was upset at a decision the first thing we would do is find out why he or she was unhappy with the decision... I would completely want to understand what their point of view was and then explain completely why the decision has been made.”*

*“...You don't just disregard their opinion, as a team we make sure team members feel their opinion is valued. If the decision is made, then we need to explain why we've taken this decision because of whatever reason and hope he or she doesn't feel too aggrieved by it.”*

*“...I definitely think that the key thing is to make sure of is they [team members] feel listened to and that they aren't going to be afraid to speak out next time or going to be annoyed, this would not be a good thing.”*

*“...Teams are one; a mutual combination of people, there should be no one who feels like an outsider especially when making decisions, that's when teams start to fail.”*

*“...Sometimes, we can see their point and it makes us think, 'oh, well, maybe we were wrong then'. In these cases, we may go for a re-vote.”*

It has been suggested that when teams undertake decision-making it can be considered a social event (Falcione and Wilson 1995; Seidl and Becker, 2006; Habermas, 2016). This argument is supported in practice at Company 'A' as decisions are usually made during the weekly team meeting, a social gathering involving all team members. If the circumstances warrant it an extraordinary meeting is called, this occurs when a decision is time bound and needs to be resolved quickly. Such decisions usually require resolution in aid to support additional unforeseen production surges this is common around critical end of quarter's or year end. In such situations teams are expected to take the initiative, it is vital they make choices to solve problems without waiting for direction from others (Wageman, 1997). It therefore makes sense that the higher performing teams become the greater decision-making powers they are given.

The process must also be subjected to continuous improvement, Aronson, Myers and Wharton (2000) argue that it is important that organisations streamline team decision-making processes to make them ever-more efficient and effective, this is increasingly important as teams begin make more meaningful decisions (Lunenburg, 2010). Improvements to the process can also be delivered by additional training although it is imperative that any material is carefully considered as it has been found that intensive, personalised feedback only offers moderate improvements at best and can cause disruption if not suitable to the organisational and team context (Bazerman and Moore, 2008).



Work by Johnson and Johnson (1999) did find however that some teams do not improve with additional training as all employees are equipped for dealing with the consequences of making decisions or indeed feel comfortable doing so, suggesting they will never be ready to do so. The transcripts do not support these assumptions considering there has been no training given on the matter, but team have an effective system of making decisions which is fair and democratic, although there is always some room for further improvement. The data from the interviews did not identify any frustration or resentment present in the current process and although team members are careful not to dismiss training it does not seem particularly overly-important they receive any appropriate to decision-making, the training needs in other areas of teamworking have far greater needs.

The size of teams can have an impact on the decision-making processes, Borrill and West (2002) found it get more difficult the larger teams become, although they offer no specific numbers for guidance, they believe in larger teams experience lower levels of information sharing as members have less influence than in smaller teams. Again, the transcripts do not support this position and larger teams with over ten members seem to be as efficient in making decisions at Company 'A' as smaller ones, the number of members did not make any difference. It is possible because members are relatively cohesive then the process is practised in a fair manner because members are close and respect one another.

Further work by Bonito, DeCamp and Ruppel (2008) found that some team members do not always disclose the information they possess. This can have negative consequences on the quality of the process and decisions made. Once again, this research found no findings that supported these positions, all team members were confident that they were fully informed and all relevant information was free flowing during the process, no one indicated there were any issues present. Littlejohn and Foss (2008) offer support for this, suggesting that the relationships present between team members has an affect how they feel and what they are prepared to share with the fellow team member, generally the more cohesive they are then the greater the amount of information is shared. Most team members at Company 'A' have been working together closely for a relatively lengthy period and therefore display elevated levels of cohesion, this is clear from the interview data. Some did indicate there was a little bit of awkwardness when teams were first set up and members didn't know each other but as the cohesion increased it spawned deeper dialogue and better decision-making. The following



extracts from the transcriptions support the statements made on cohesiveness supporting better decision-making in teams:

*“...Everyone wants to come to work and get on, which we all do, our team are very cohesive, it defiantly helps us make fair decisions.”*

*“...Our team work excellent together and get on really well; it was a little hard at first when we didn't know each other but when you work together every day that soon changes. This helps the decision-making process without doubt.”*

*“...We are quite fortunate we have a good bunch of boys, so we get on well, no animosity there so, we're all on the same wavelength. Makes things much easier especially making decisions.”*

*“...When you can get a team that is working well together like ours it can be very productive, makes teamworking and decisions much easier.”*

*“...I think our team works; we all get on and enjoy doing our jobs together. Decision-making is easy.”*

*“...We get on well as a team; we are all good friends I think this really helps when making those awkward decisions.”*

Cohesion refers to the synergistic interaction between team members and has been suggested to reduce uncertainty found present in some in team functions particularly decision-making (Klein and Mulvey, 1990; Barrick *et al.*, 1998). It is a very important factor of teamworking, De Jong *et al.* (2001) found cohesive teams are far more supportive of one another than non-cohesive teams as when team members feel supported they are far more likely to offer their honest opinion on a matter further aiding effective decision-making. It is therefore essential for organisations to encourage elevated levels of cohesiveness not only for its positive effects on decision-making but also because it helps teams to embrace other norms quicker too (George, 2000). Ross (2006) and Plowman (2015) also agreed that strong cohesion is clearly linked to advantageous team outcomes better decision-making in teams. This is because it is a process in which multiple individuals participate and one where they must come together to facilitate solutions. In the decision-making process teams must first analyse the problem as one and then move on to select the best solution among several options most likely given by fellow team members, for this reason it can be classed as a shared team process, which is a central caveat of successful teamworking (Anisseh and Yusuff, 2011; Perez, Cabrerizo and Herrerra-Viedma, 2011).



It is also essential for effective decision-making to have clear communications present as this guides the process (Cheney *et al.*, 2004). If effective communications are absent it can hamper the success and have consequences for decisions (Belbin, 2016). Andersen (2003, p. 252) shares the belief that effective communications are key to the decision-making process and describes it as an “*infinity machine*”. Implying they have no end and a robust process demands that both communication and cohesion keep going and going forever; well after the process of making an actual decision has been completed. This is because the same stream of communication is needed to measure the effectiveness of decisions after they are implemented (Hitt, Miller and Colella, 2006). Team members often must go back and re-assess their actions and determine if the decision made was the most suitable, and if the solution is working satisfactory, none of which is possible without clear communication infrastructure being present. From the interview transcripts, most subjects testified that suitable and effective methods of communication are in place and successfully working within their respective teams. The main conduit for such discussions is the weekly team meeting that occurs for an hour every Friday afternoon, some of the comments that strongly support this include:

*“... We have a team meeting weekly, these are when we sit down and talk about any issues in a clear way and make our decisions, and everyone gets their say and gives their opinion.”*

*“... You got to state you're point in the team meeting, we don't just accept one or two people's opinion we want everyone's or at least everyone who wants to give it, as a team you got to talk things through by good communication this keeps the harmony right.”*

*“... This is key you know, we have honest communication, I think it really helps because we all respect each other's views.”*

*“... With good communication things just get done a lot quicker and a lot more efficiently for the overall benefit of the team, there is no sitting on the fence or deadlock when making decisions.”*

*“... When a decision must be made by the team, we either get together there and then and talk it through or if it can wait it is put on the agenda for the next team meeting. During the meeting, we discuss the problem and decide. All communications are typed up in minutes, so we can return to them if there are any queries further down the line by any of the team members or management.”*

From the data analysed that was associated with this theme the process of decision-making in the teams at Company ‘A’ is working well and reported by all interviewees to be effective, fair and democratically applied. As it is a coherent process it possesses several advantages, team members quickly adopt accepted present best practices by following other members who are already actively participating in democratic decision-making.





There are however some disadvantages found with the current decision-making process, these need to be monitored to mitigate any potential negative aspects and ensure they do not become an issue to teams at the facility. Such disadvantages include member bias which may influence the team's decision processes (Tindale *et al.*, 1996). Others include “*team think*” where individual all form an opinion as a collective, usually emboldened by one forceful team member. Further issues to be aware of are social pressure from other team members leading weaker members towards conformity, individual being dominated by stronger team members, secondary goals conflict or conflict of interest taking precedent, ambiguous responsibility and the introduction of fatigue into the decision-making process make it slow and cumbersome (Hashim, Alam and Siraj, 2010; Lunenburg, 2010; Buckley, 2012). Wasted time can be costly as the organisation does not have infinite time or resources available; although caution must be used not too rush the process as this can result in the sub-standard decision to be made (Hollnagel, 2004).

There are a wide range of methods, techniques and approaches available which can be helpful and mitigate the influence of such disadvantages, this requires training. Such interventions can be used to teach decision makers to make better more beneficial decisions and ensure that some of the drawbacks described don't become norms in the present healthy team decision-making process practiced in Company 'A'. Again, training would be required to make sure that the right content was taught that was relevant to the team context and delivered using appropriate resources. This would serve to enhance team members personal understanding of the process (Ismail, 2011) and make it even more efficient than current.

### **5.3.5 'The Role of Middle Management Within the Team Environment'**

The interdependent relationship between managers and the team methodology can hardly be overemphasised (Sohmen, 2013). There are however no easy solutions of how leaders can improve team performance and effectiveness; this is a question that the literature has not been able to answer with either precision or satisfaction (Kozlowski *et al.*, 1996; Zaccaro and Klimoski, 2001). One thing is certain, it is the job of local leadership to ensure direction and commitment from teams and they are aligned with needs of the organisation (Drath *et al.*, 2008). It is this alignment that ensures agreement and enthusiasm among



employees in relation to what the organisation is trying to achieve, consistent with its vision, values and strategy (Miller, 2014).

There have been some sensational arguments made around leadership and teamworking. It has been said that leadership and teamwork combined are the “*warp and woof*” of organisations, part of a dynamic fabric where one simply cannot exist without the other, with some claiming the symbolism of the relationship cannot be overemphasised (Sohmen, 2013). It is also widely acclaimed that “*good*” leaders motivate their respective teams to accomplish the tasks required and set goals that are beyond their own expectations (Bass, 1990), creativity key to this motivation (Mumford, Schultz and Osborn, 2002) with such efforts complimenting effective team implementation (Kuyvenhoven and Buss, 2011; Raelin and Cataldo, 2011). Again, what is actually “*good*” leadership, there is very little agreement found as to what this entails (Davys and Beddoe, 2010).

It is strongly believed that it is in the interest of all team-based organisations to encourage management to become high performing team leaders while utilising a range of competencies, including the ability to focus on targets, manage upwards, motivate staff and coach and encourage team learning (Jones, 2006). They should also strive to give teams strong clarity of vision (Berson *et al.*, 2001) and “*continually increase and expand their storehouse of knowledge about the team and its environment*” (Whetten and Cameron, 2016, p.508). Leaders must also provide strong leadership as it “*difficult to maintain effective teamwork without the guidance of a strong leader*” (Matthews and McLees, 2015, p. 21). They must also get involved and know their teams well, this can result in a reduction of the time it takes teams to complete a specific task, which leads to improved productivity (Kahneman and Lovallo, 1993). They also need to be inspirational as “*leaders are unable to lead a team if they cannot inspire the team to work together*” (Matthews and McLees, 2015, p. 21).

In Company ‘A’ the middle management tier is a direct conduit between the senior management level and the production area-based teams. The role is considered essential to operational continuity because their operational knowledge effectively makes them mediators between the organisations daily operations provided by the team and its strategy provided by senior leaders (Wooldridge, Schmid and Floyd, 2008). Due to their unique position, middle managers should in theory act as a member and agent of a team, influence team performance in a way that combines their own individual characteristics and interaction with their

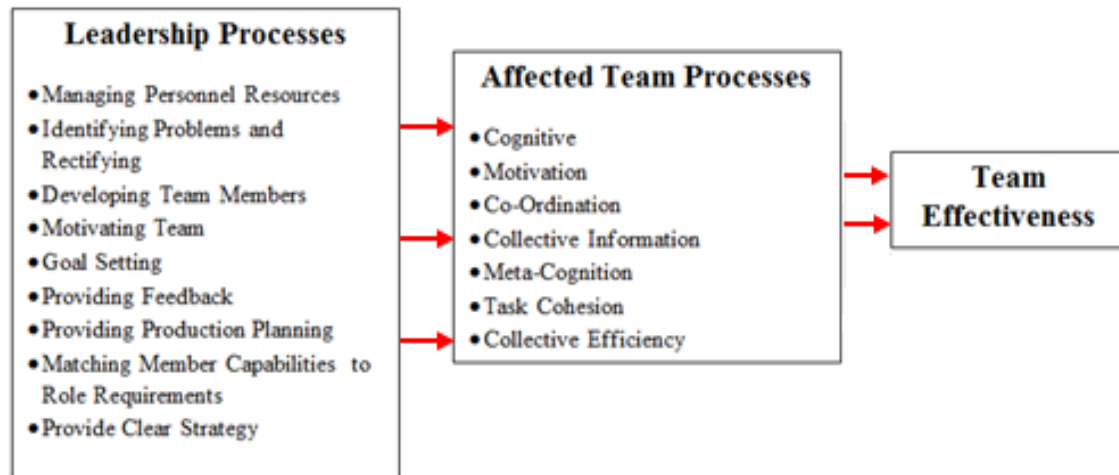


respective teams (Xiao-Shan *et al.*, 2014). For middle managers to be effective at enacting change they must be expert communicators in the face of competing priorities (Bryant and Stensaker, 2011) and they need to develop elevated levels of interaction with their representative teams (Gigerenzer, Hoffrage and Kleinbölting, 1991). This quality requires both competency and empowerment (Leggat, Balding and Anderson, 2011), without them middle managers often lack the authority to be able to effectively implement change (Kumarasinghe and Hoshino, 2010) and can possibly lose control of the team.

The middle management tier also required to be able to influence upwards in their interactions with higher level of management, they should also be able to integrate horizontally and engage in divergent initiatives (Wooldridge, Schmidt and Floyd, 2008) as they are key to continuous organisational innovation (Nonaka and Takeuchi, 1995). When competent they have been described as the “*the lifeblood of an organisation, serving as key communicators, connectors and trust builders*” (Chartered Management Institute, 2016, p. 4). They also provide important contributions to the implementation of strategy (Huy, 2001) and possesses the knowledge of how to get thing done, how to motivate the workforce and how to avoid confusion and discord when implementing change and strategy. (Huy, 2001) because they hold a unique position within the company (Huy, 2001; Wooldridge, Schmid and Floyd, 2008; Ahearne, Lam and Kraus, 2014)

Due to their significant impact the role of middle management has been identified as especially critical (Kozlowski and Doherty, 1989; Salvaggio *et al.*, 2007), they can be the very engines of successful team management. As discussed, the work undertaken at Company ‘A’ is complicated and highly technical, the more technical the task is then the more input the leader should give albeit dependent on what level the team is at from a performance perspective (Mickan and Rodger, 2000). The middle managers should assist in overcoming problems that the teams experience by generating appropriate solutions and provide support for planning and implementation of the most appropriate concepts and help coordinate and monitor the implementation of the solution. This is particularly pertinent in complex and dynamic environments (Mumford, Schultz and Osborn, 2002). A summary of middle

manager's inputs and the desired output effects on team effectiveness as proposed by Zaccaro, Rittman and Marks (2001) is illustrated in Figure 5.2.



**Figure 5.2:** The diagram provides a summary of what leadership processes affect team processes which in turn influences their effectiveness.

Source: Zaccaro, Rittman and Marks (2001, p. 451-483).

The level of interaction provided by the middle manager is conditional on the stage the team is at in its development team's stage of development, generally the more dependent the team the more interaction required and the more autonomous the less. Although no matter how advanced and high performing a team becomes they will always be some input and direction given to maintain a strategic focus that supports the organisation's vision, facilitates the setting of goals and educates and evaluates the team's achievements (Barczak, 1996; Proctor-Childs, Freeman and Miller, 1998), leaders cannot be simply eliminated altogether. During interview, some subjects at Company 'A' seemed confused and concerned about what the actual role of their manager entails, this is supported by the following comments:

*"...I don't really know what he [the manager] does to be honest."*

*"...I wouldn't know 100% what [redacted]<sup>24</sup> role is."*

*"...My manager isn't particularly effective; I'm confused what his role is exactly."*

*"...I don't think they [middle managers] have defined roles and responsibilities."*

*"...It's unclear how they [middle managers] manage."*

*"...They [the company] have taken a lot of people into these roles and don't think they are actually qualified to do it."*

<sup>24</sup> Name removed to protect individual's identity.



*“...You do hear of others they are just not cutting the mustard, they just don’t get it, they have the wrong personality or wrong character trait you know.”*

*“...Bringing in fresh faces that are far too inexperienced in key roles that should have gone to experienced people, just doesn’t work.”*

*“...I really don’t know what my manager does.”*

*“...The role of the manager’s here is not clear, we have never been told exactly what they do and how the teams fit into what they do, or they fit into the teams.”*

*“...The manager role is a little fuzzy and undefined.”*

*“...The company needs to define what the teams are supposed to be doing as a team and what the middle managers are supposed to be doing for the teams. So, there are clear lines of engagement.”*

*“...Middle managers, they are supposed to be team coaches and mentors, but they are not they are trying to be supervisors! In the main, we understand their role, the production side of it at least, not sure what else they take care of tho, I’ve not read it or seen it written down anywhere.”*

During interview, every subject shared the opinion that they did not believe the role of their respective manager was clearly defined and there were indications given that out of the present population of middle managers some are not suitable to be in the position because they are not qualified or capable of doing the role effectively. There did seem to be a lack of confidence in the whole middle management tier. In any team environment, clearly defined role boundaries are essential as they can have implications on lots of parameters including productivity, performance, cost, motivation and moral (Belbin, 2016). Teams can become rudderless without effective and experienced leadership (Sohmen, 2013) because they are “*crucial for team success*” (Van Brunt, 2012, p. 55). Jex and Britt (2008) go further arguing to ensure teams are successful management need to consistently provide strategic direction, sound vision and a clear set of goals and objectives, adding this will help get the best results out of teams, but if they don’t understand their organisations then they simply cannot deliver.

From the comments, it is also evident there is significant inexperience present in Company ‘A’s middle management tier something the literature indicates needs to be re-balanced. This is because the work undertaken at Company ‘A’ is highly technical therefore middle managers should be suitably technically qualified and capable. From the dialogue, it is apparent that this is not what is occurring in practice, there are many comments regarding inexperienced managers found in the transcripts. This proposition is supported by Kettle (2015) who argues that the dynamics of being in a position where supervision is required to



be given can be extremely complex and challenging, the delivery of which is a skilled task that requires support and training from the host organisation. Further work by Huy (2002) found that middle management can only be effective and act as the primary drivers of change in their organisations when they are suitably qualified for their position, reinforcing that middle managers require significant training and experience.

There can also be issues when organisations initially switch from a traditional hierarchical structure to one of working in teams. It is argued that many former leaders can often have trouble shifting from “*cop*” to “*coach*” (Procter and Benders, 2014). Leaders who are accustomed to the traditional method of “*bossing*” their sub-ordinates are often uncomfortable ceding decision-making power to teams and can struggle to do so (Fisher, 2000). It is also essential that the leader’s job definition follows suit and changes to reflect the new reality (Miller, 2005). Supporting the notion about the difficulties found when ex-managers transition to teams, Fenton-O’Creedy and Nicholson (1994) argue that resistance from former middle managers to be one of the most common barriers to team success. Fenton-O’Creedy (2001) also found that management resistance to employee involvement has a significantly adverse effect on positive team outcomes. The fact of the matter is when teams are introduced then middle managers must be prepared to relinquish authority and accept the transition to another role if required, teams must also be held accountable if they are going to develop further and take full responsibility for their performance.

Further exploring the role of former managers who have practiced management in a hierarchical system of working many have been found to experience insecurity and loss of confidence during the transition to teamworking, this is reinforced by what is perceived to be a parallel hierarchy (Denham, Ackers and Travers, 1997; Fenton-O’Creedy, 2001; Holden and Roberts, 2004; Psychogios, Wilkinson and Szamosi, 2009). It should not come as a surprise because it is commonly accepted that significant organisational change is a complex and dynamic process that is prone to initiating conflict between stakeholders be it former managers and teams (Smollan, 2011; Starr, 2011; Wittig, 2012). When in a state of conflict there is a likelihood of change resistance occurring, but this is not always a negative predictor of the outcome. It can be a reliable source of alternative ideas that improve the change initiative, but it must be resolved, or it can undermine the changes (Raza and Standing, 2011),



turning what is a widely considered negative organisational outcome to be in fact a positive one.

During an organisational transition to teams another cause of concern for former leaders is what jobs will they continue to do. During team implementation, a well-documented advantage is downsizing or redeployment of labour that leads to reduced job security in the remain smaller community of managers. This can also be found to worry them because they suspect they will experience increased work and peer pressure. Further fears could include they believe they will have to work harder and longer and administer larger area than before (Robyn and Dunkerley, 1999; McCann, Morris and Hassard, 2008). It is therefore essential that remaining managers are encouraged to expand their skills, knowledge and efficiency by way of training which will allow them to cope with the changes more effectively (Cascio and Wynn, 2004).

During interview subjects commented that there was indeed some resentment present within the population of former leaders at Company 'A'. This was especially true during the early years following the initial transition to teamworking. This condition has subsided substantially except for one former manager out of a population of approximate thirty who were practicing the role when teams were initially introduced. Many have left the business or been since been redeployed. The one remaining former middle manager who still has authority still exhibits some resentful behaviour and has struggled to "let go", even after a period of over twenty years. This frustration found in former managers has support in the literature and is further reinforced by comments from two subjects that work in the same area as the said middle manager, their prominent remarks include:

*"... The manager has never been able to let go and let the team run with things."*

*"...Interferes far too much."*

*"...It would be good if the team could act like a team."*

*"...Our manager still tries to be a supervisor and has never let us carry on as a team, he really struggled to leave go of his former role, well hasn't left go to this day."*

In a true teamworking environment, the former leader's role should move from one of controller to initiator, counsellor and facilitator with the right support and environment for





effective teamworking and co-operation (ACAS, 2014). The process of migration from traditional methods of management needs to be possible executed slower if undertaken in alternative facilities than it was at Company 'A' where team become totally effective within three months of takeover and very sudden. This follows guidance by Gittell (2009) who argues that there is a danger present to organisations if the middle management layer is totally removed and then immediately replaced by empowered workers who become responsible for their former managers roles and responsibilities. Employee behaviour is in large shaped by what leaders do (Storey and Holti, 2013), it potentially a case of no leader then no direction, because building a high performing team requires a leader to help one who can manage the journey from dependence to interdependence (Blanchard, 2016). A possible practical point to start would be to observe the proposals by Miller (2005). Table 5.1 illustrates the role of the traditional leaders as opposed to team leader's or coaches which could be used to plan and execute a smoother transition. From the transcripts, it seems that the middle managers in Company 'A' are in management stalemate and not sure what faction they are supposed to be aligned with or how much authority they can exercise. Some are acting like traditional leader's and some acting like a team leader or coach, but they hold the same position. There are currently no rules written down and the choice is down to the individual middle managers style possibly countered by the resistance the team puts up to being treated in a distinct manner.

***Table 5.1: The role of traditional leaders as opposed to team leader or coach.***

<i>The Traditional Leader</i>	<i>The Team Leader (Manager) or Coach</i>
<ul style="list-style-type: none"><li>• He/she single-handedly directs the production process or delivery of services.</li></ul>	<ul style="list-style-type: none"><li>• He/she assigns responsibility for the production process or delivery of services to their respective teams and other stakeholders.</li></ul>
<ul style="list-style-type: none"><li>• He/she decides alone how to solve issues and does not seek any second opinions or the involvement of any other stakeholders.</li></ul>	<ul style="list-style-type: none"><li>• He/she develops the teams and other stakeholder's problem-solving skills and encourages them to get involved in developing solutions.</li></ul>
<ul style="list-style-type: none"><li>• He/she decides unaided when to "take on" or "lay off" employees.</li></ul>	<ul style="list-style-type: none"><li>• He/she consults other stakeholders when deciding to "take on" or "lay off" employees.</li></ul>
<ul style="list-style-type: none"><li>• He/she may consult with fellow managers on what individuals to engage when to develop talent or may act without any help whatsoever.</li></ul>	<ul style="list-style-type: none"><li>• He/she encourages team members and other stakeholders to engage in developing themselves and supports the organisations "talent pipeline".</li></ul>
<ul style="list-style-type: none"><li>• He/she is very aware of what is going on in their organisation but doesn't necessarily feel compelled to share relevant information with any other stakeholders.</li></ul>	<ul style="list-style-type: none"><li>• He/she is very aware of what is going on in their organisations and ensures that all relevant information is accurately flowed down to their respective teams and other stakeholders.</li></ul>
<ul style="list-style-type: none"><li>• He/she is responsible for catching and mitigating errors and implements change without consultation with anyone else.</li></ul>	<ul style="list-style-type: none"><li>• He/she engages team members and other stakeholder when errors occur, consults and involves them when</li></ul>



	<i>implementing change and recognises and rewards continuous improvement.</i>
• <i>He/she usually has the experience to solve problems when they occur again this will be done with no support off any sub-ordinates.</i>	• <i>He/she creates a culture of knowledge sharing and collective wisdom, involving team members and other stakeholders.</i>
• <i>He/she takes pride in their personal achievements as well as the organisations.</i>	• <i>He/she takes pride in their personal achievements as well as the successes of teams, its members other stakeholders and the organisation.</i>

Source: Miller (2005).

The lack of job description and specifically outlined authority for the middle management community has led to doubts within some of the production area personnel about the willingness of some to lead teams and hold them to account. There were many who commented about their unwillingness to confront team members who are underperforming. Strong leaders are of paramount importance to organisations and teams alike as when they are weak they cannot inspire teams to be successful and severely affect the ability of teams to function effectively (Peterson, 1997; Matthews and McLees, 2015). Furthermore, Kuyvenhoven and Buss (2011) and Raelin and Cataldo (2011) found empowering middle managers with clear demarcation of authority is the key to managing effective change implementation in an organisation. This is not current practice at Company ‘A’, evident with the following comments:

*“...I don’t think there is a clear enough definition or appetite for the middle managers to step in and tell the teams ‘no’ when they are pushing things too far.”*

*“...I don’t think the middle managers have got enough powers.”*

*“...They [Middle managers] don’t want an argument or bad feeling.”*

*“...They don’t [Middle managers] want to deal with that conflict.”*

*“...Most of the middle managers pussy foot around the teams, they don’t want to upset them as they know keeping the shop floor on side is key to production, if they upset the teams then they will be less productive, and the Manager will start having huge pressure off higher management.”*

*“...Middle managers are not prepared to make the tough decisions to deal with people, to deal with situations, to lay down the ground rules and stick to them.”*

*“...Quiet a few of the middle managers are weak, they don’t lead the teams, and they want to be everyone’s friend instead of a leader.”*

Managers should also be aware of their own performance gaps and need to be directly and personally accountable to close these gaps (Federation University, 2016). The addition of an accurate job description and boundaries is also appropriate. To this point feedback again



is important and there should be a recognised mechanism to enable such a process to take place and be effective. The inception of a two-way feedback system, manager to team and team to manager. Another key component that has been claimed to be missing is the level of support that middle managers and teams alike receive from senior management. This is professed to be essential when trying to create high performing teams (Jones, 2006). Some of the comments that support the comments include:

*"...I never see my product leader they just don't come down here, if they did I'm sure the team would appreciate it, it would lift moral which would make us work better together."*

*"...The only time that the team's see's the product leaders are during end of quarters when they want something and are trying to 'gee' us on, apart from that they don't bother."*

*"...I would like to see more of the product leader, regular Q and A [Question and Answer] sessions would be good, let us find out what's truly going on in the business not hear it third hand through the rumour mill."*

*"...Defiantly we would like to see more of them, it's important to us to have the interaction, which we currently don't I'm afraid."*

There is clearly dissatisfaction present in the teams because they don't see their senior leaders on a regular enough basis and they feel they don't interact with them as much as they would like to. The transcripts also indicate most team members would react positively if this trend was reversed and they had a regular forum or set meeting time with their product leaders.

From the transcripts it is clear to see that once again there is a lack of training present. This is required to enable middle managers to design and implement appropriate team processes and to develop the skills they need to lead their teams effectively (EFILWC, 2008). Training would assist them to define team goals and give them the necessary skills needed to develop and structure their teams to accomplish organisations objectives (Zaccaro, Rittman and Marks, 2001).

Furthermore, training would enable middle managers to be able to effectively coach their teams as they have also not received any formal coaching training either. Coaching for teams is vital and helps them to improve the quality of the team members thinking which allows them to explore more options. It is not a short-term commitment and must be applied for an extended period and requires delivery by appropriately trained staff (Hicks, 2010). Other benefits of middle managers possessing the ability to coach include building fundamental teamworking skills for the long-term and offering members the capacity to manage new challenges by utilising the existing resources present in the team and allowing



further improvement of them (Clutterbuck, 2009). Coaching has also been found to directly increase team members enthusiasm to apply effort, augment their skills, enhance their knowledge and influence how they select and apply strategy (Liu *et al.*, 2009). Furthermore, studies have indicated by providing coaching it motivates members to further devote themselves to the team and be enthusiastic about participate in and equally sharing workload (Parker, 1994). It is therefore strongly believed that coaching should be made available via middle managers as it is necessary to promote all the stated advantages and provide leadership within teams, although care needs to be taken to only guide but not overload the team members (Van de Water, Ahaus and Rozier, 2008).

Further observations from the transcripts include evidence that the middle management tier is operating in significant distinctive styles depending on their respective areas, personality and the teams they are expected to lead. It is also apparent the middle management role does not have any set parameters of when and how to interact with the teams and at what level this should be done. This is one of the principal aspects of teamworking, as Raelin and Cataldo (2011, p. 486) caution *“if middle managers are not empowered to fill this interstitial role then organisation changes will struggle and fail”*, this underscores the importance of such components to the successful application of teams. Training should be made available for middle managers to allow them to progress their respective teams and improve their facilitation skills, which is another essential element in building effective teams (Gilley *et al.*, 2010). It is hugely significant that leaders have the necessary skills to define team direction and organise them in such a way that they maximise their progress, effective leadership is therefore possibly the most critical factor in the success of the teams (Zaccaro, Rittman and Marks, 2001). Consequently, the role needs to have a clear purpose, that is distinct, provides suitable leadership and have the resources available to be able to get the job completed in the best manner possible (Mickan and Rodger, 2000). The senior management should also heed the advice from the production teams and start to interact more with the team members. This would dissipate their belief they are absent unless they are pushing production at business-critical times of elevated output and serve to increase morale. This concludes the discussion of results on the five themes, a summary will now be presented to close the chapter.



## **5.4 Chapter Summary**

### **5.4.1. Summary**

During this chapter, the five emergent themes were discussed in greater detail and analysed further by performing a comprehensive assessment of the transcribed data by comparing it to relevant literature. A comparison exercise was also made of what is occurring in practice at Company ‘A’ daily. The objective of the comparison was to identify similarities and/or differences that either offer support to, or challenge existing literature and what is currently occurring in practiced at Company ‘A’.

The discussion shared in this chapter did indeed reveal some very worthwhile and interesting points that are enormously informative and will be very constructive when refined and applied to improving the teamworking method at the facility. The fact they were disclosed from analysing data that was collected from the “*grassroots*” of teamworking for the first time is its significant strength.

This is because the people who delivered the data are the very team members who have the advantage of knowing the true mechanics of the method in-depth. Their expertise derives from the requirement for them to practice the teamworking day-in-day-out as have done so for an extended period-of-time, therefore, they know it extremely well. The refined instruction will hopefully allow the facility to better compete and even surpass its competitors that are currently operating on a cheaper cost base and therefore offering equal services at a more economical price, albeit arguably not to the same level of quality. In the next chapter, the thesis and conclude.

\*\*\* End of Chapter 5 \*\*\*



## **~ Chapter 6 – Conclusions and Recommendations ~**



## CHAPTER

# 6

## 6.0 CONCLUSIONS AND RECOMMENDATIONS

*"THE SCIENTISTS OF TODAY THINK DEEPLY INSTEAD OF CLEARLY. ONE MUST BE SANE TO THINK CLEARLY, BUT ONE CAN THINK DEEPLY AND BE QUITE INSANE..."*

*Nikola Tesla*

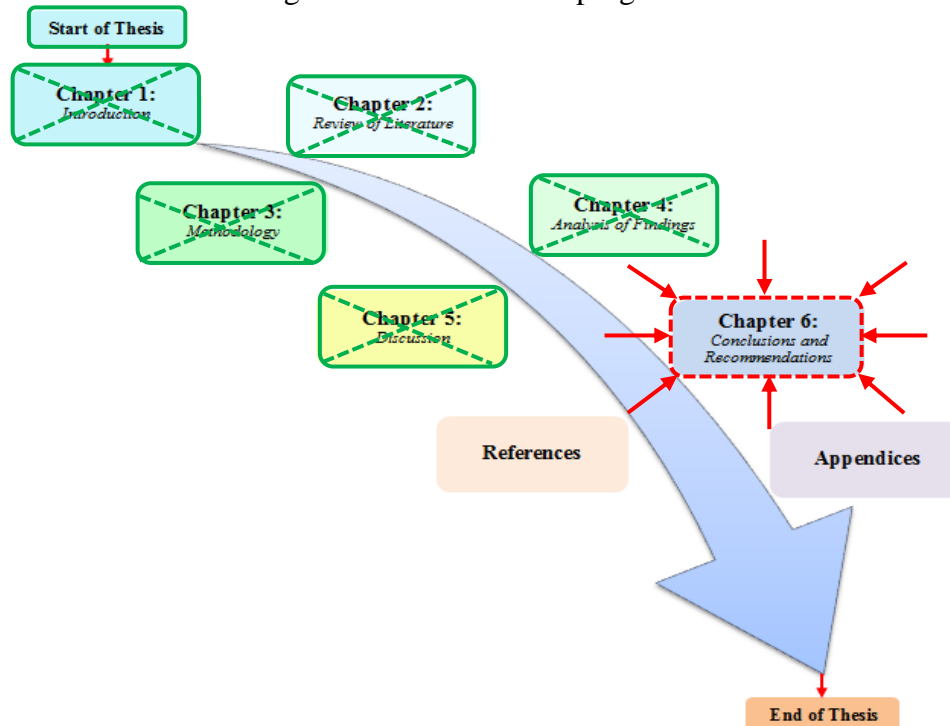
~ Nikola Tesla  
(1856 - 1943)

*Serbian-American Inventor, Electrical/Mechanical Engineer, Physicist, Major Contributor to Alternating Current (AC) Electrical Supply*

### 6.1 Thesis Progression

#### 6.1.1 Progress Map

The sixth and concluding chapter discusses the contributions and recommendations generated from the research. Figure 6.1 illustrates the progression of the thesis so far.



**Figure 6.1:** This chapter is concerned with the conclusion and recommendations of the study.

### 6.2 Chapter Introduction and Objectives

#### 6.2.1 Introduction

This chapter concludes the research and summarises the thesis content. It endeavours to provide a summary of the contributions by providing answers to the research questions and the research problem itself by means of an assessment of the data gathered during the





interview and analysis of findings phases. The contributions are presented in tabulated form at the start of each research question using a classification system with pre-determined criteria then follow a more in-depth approach that has a general format which follows the three distinct categories outlined below:

- 1) Contribution to knowledge.*
- 2) Contribution to practice.*
- 3) Recommendations of changes to present practice.*

The overall conclusion to the research problem is satisfied by applying a summary of what inhibits teamworking in safety critical organisations that is supported by a comprehensive table of the prominent points raised by the literature to a condensed form of the findings and cites the learning outcomes achieved. A solution is also proposed to the gap analysis proposed in chapter two of key areas when applying pertinent management methods as an additional contribution to practice.

Additionally, during this chapter there will be discussions on the limitations of this research which considers the entire process from start to finish. Then recommendations for future work are presented, which describes areas that can be further explored to compliment this research. There is also an assessment made of the case-studies implications for teaching, which surveys the practical inferences of the material presented in this thesis from a teaching perspective. This is followed by critical reflection which outlines what didn't go well, what was satisfactory and what aspects went favourably as well as what would be accomplished differently if the same research was repeated. This is combined with a brief narrative on the whole experience of completing a life changing Doctor of Business Administration (DBA) degree from the researcher's perspective, prior to a summary being given and the thesis concluding.

### **6.2.2 Objectives of the Chapter**

The objective of this chapter is to discuss the contributions to knowledge and provide recommendations within the context of the research questions and then summarised in the context of the research problem. As well as other matters that are worthy of further discussions prior to delivering a brief closing summary.



## **6.3 Contribution of the Research**

### **6.3.1 Contributions to Knowledge and Practice and Recommendations**

The case study provides both contributions to knowledge and practice. When considering the contribution to knowledge, the study results offer support for several perspectives that are present in the teamworking literature. In a practical context, the case study provides the host organisation, Company 'A' with a significant opportunity to better understand teamworking when applied to their organisational context, by examining what concerns exist, what are potential areas suitable for change and what works in a satisfactory manner or well. Finally, there are also recommendations of changes to practice, these will be made available to the research host organisation for further deliberation and discussion. They should be carefully considered as they can lead to further considerable improvements to current team practices. However, they need to be subject to careful assessment to ensure they provide an overall benefit to all or at least most of the teams at the facility.

The tabulated data provided at the beginning of each research question resolution summarises the contributions to knowledge and practice into brief statements. Every point has a distinct classification allocated that adheres to one of the following five conditions:

- 1) If there is evidence found present in an emergent theme that does not have support in the existing body of relevant literature, then it is classified as:*

***“Advance of knowledge.”***

- 2) If there is evidence found present in an emergent theme that is supported in the existing body of relevant literature, then it is classified as:*

***“Supports current knowledge.”***

- 3) If there is evidence found present in an emergent theme that currently does not occur in practice at Company 'A', but is supported by an existing body of relevant literature, then it is classified as:*

***“Advance of practice.”***

- 4) If there is evidence found present in an emergent theme that currently does occur in practice at Company 'A' but is not supported in the existing body of relevant literature, [because it is unique to the organisational setting for instance] then it is classified as:*

***“Supports current practice.”***



- 5) *If there is evidence found present in an emergent theme that currently does occur in practice at Company ‘A’ and is supported in the existing body of relevant literature, then it is classified as:*

***“Supports current knowledge and practice.”***

The resolution to each of the five research questions will now be discussed.

## **6.4 Research Question One**

### **6.4.1 Question One Review**

Research question one asked, “*do individuals believe they have received adequate training to allow them to engage effectively in teamworking?*”

### **6.4.2 Definitive Contribution and Classification**

A summary of the contributions and the appropriate classifications that are applicable to this research question are provided in Table 6.1. The contribution to knowledge and practice as well as recommendations are discussed in further detail in the ensuing paragraphs.

**Table 6.1:** *The definitive contribution and associated classification to knowledge of research question one.*

<b><i>Research Question</i></b>	<b><i>Definitive Contribution</i></b>	<b><i>Classification</i></b>
<b><i>• Do individuals believe they have received adequate training to allow them to fully engage in teamworking?</i></b>	<b><i>• Team training is essential for teamworking to be effective</i></b>	<b><i>• Supports current knowledge. • Advance of practice.</i></b>
<b><i>-----</i></b>	<b><i>• Team training enables team members to be more effective in a team.</i></b>	<b><i>• Supports current knowledge. • Advance of practice.</i></b>
<b><i>-----</i></b>	<b><i>• Team training advances member’s teamworking skills.</i></b>	<b><i>• Supports current knowledge. • Advance of practice.</i></b>
<b><i>-----</i></b>	<b><i>• Team training is essential at the beginning of the transition to a teamworking culture from a hierarchical management method.</i></b>	<b><i>• Supports current knowledge. • Advance of practice.</i></b>
<b><i>-----</i></b>	<b><i>• Training needs to be specific to the environment where it is to be practiced and consider the organisational context.</i></b>	<b><i>• Supports current knowledge. • Advance of practice.</i></b>
<b><i>-----</i></b>	<b><i>• Cross-training is an effective method of teaching team-based employees.</i></b>	<b><i>• Supports current knowledge and practice.</i></b>

*Source: Developed from Data Generated by this Research (2018).*

### **6.4.3 Contribution to Knowledge**

The exploration of this question offered support for several positions found in the relevant literature and therefore yielded a credible contribution to knowledge. Cannon-



Bowers and Sales (2000); Bradley, White and Mennecke (2003); Arthur *et al.* (2003); West (2004); Hill and Lent (2006); Wei-Tai (2006); Satterfield and Hughes (2007); Yeager and Nafuchi (2011) and Wakeling, Beatson and Purcell (2015) all clearly state that team training is an essential element that ensures teamworking remains effective, all the team members interviewed undoubtedly supported this stance. Furthermore, they also indicated that training in a teaming context would allow them to become more successful as team members in their everyday interactions with their own teams and beyond when co-operating with other teams this concurs with work by Morgeson, DeRue and Karim (2010) and Littlepage *et al.* (2016).

The subject's opinion also corresponded with relevant literature regarding the advances that team training can provide them with regarding actual teamworking skills. They also agreed that it is essential for some training to be delivered at the very beginning of the transition to the method from a previous hierarchical system of working, this supports work by Williams, Parker and Turner (2007). Such training allows team members to be fully aware of what the expectations are when arranged in a team and ensures they possess the necessary skills prior to making the transition. This will enable them to transit much more efficiently to a system that demands shared responsibility.

There were also significant indications that interviewees concurred with available literature that team training needs to be specific to the environment in which it is going to be practiced and the actual training package needs to be adapted to suit the organisational context and be relatively specific. They agreed that training packages cannot be simply purchased "*of the shelf*" and then delivered, they must be subjected to some modification to ensure that they are suitable or they can be a waste of valuable resources and time, this corresponds with work by Reilly, Cummings and Bevan (2001); Ostergaard, Ostergaard and Lippert (2004) and Hallencreutz and Turner (2011). There were further occurrences where the data given by the subjects concurs with the relevant literature concerning cross-training, everyone interviewed concluded that they believe this form of team training is a very effective method in which to train personnel, this supports work by Blickensderfer, Cannon-Bowers and Salas (1998); Cannon-Bowers and Salas (1998); Marks *et al.* (2002) Smith-Jentsch *et al.* (2008) Abrams and Berge (2010) and Harris (2012).



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#### **6.4.4 Contribution to Practice**

From a practical stance the evidence presented in the findings indicated there is a significant lack of training accomplished by Company 'A'. Out of all the dilemmas found during the research this is the one that is deemed to be the most concerning, even an alarming issue, this sentiment is clearly echoed by all the team members interviewed.

After greater investigation it soon became apparent there was no formal team training delivered at all on any matters other than a very insignificant amount of mandatory non-team related regulatory training and some minor events of EHS instruction. It is clear to see that this is a cause of major frustration to many team members who sincerely want to have the necessary skills to be able to overcome the testing daily occurrences they frequently encounter and are not currently equipped to manage properly. The areas of team training identified that need to be addresses include conflict resolution, work sharing, negotiating with awkward team members, time management and how to be effective in the various team roles and responsibilities. They interview population sincerely believe that a program of training will advance their own skills and those of their colleagues and is crucial for them to be able to cope effectively with the challenges they often face and are currently unable to solve.

The overall contribution to practice regarding this research question is the organisation is now positively assessing training from a teamworking perspective and considering the delivery of modules for the elements stated as deficient amongst others. There are also currently significant efforts being undertaken to establish an appropriate strategy to determine the specific content, applicable population and method(s) of delivery of such material, which observe the concerns found and consider the unique context of the organisation.

#### **6.4.5 Recommendations of Changes to Present Practice**

It is essential organisations maintain necessary competence in their workforce by delivering adequate training to all teams (Wei-Tai, 2006), this includes the middle and senior management teams. Therefore, it is recommended the organisation brings to fruition its current plans to create a team training program. The content must be relevant and sustainable in accordance with the advantageous outcomes found in work by Cannon-Bowers and Sales (2000); Bradley, White and Mennecke (2003); Arthur *et al.* (2003); West and Markiewicz



(2004); Hill and Lent (2006); Wei-Tai (2006); Satterfield and Hughes (2007); Yeager and Nafuchi (2011) and Wakeling, Beatson and Purcell (2015). This will without doubt help to optimise teamworking (Salas *et al.*, 2008) at Company ‘A’ and aid the effective sharing of knowledge (Zhang, Venkatesh and Brown, 2011). Such an intervention must be well designed to ensure it possess the required longevity (Bates, 2000; Cummings, Reilly and Bevan, 2001; Morgeson, DeRue and Karam, 2010; Hallencreutz and Turner, 2011) and be supported by a process of ongoing coaching (Guest, 1997; Hackman, 2003; Morgeson, DeRue and Karam, 2010). A popular method of training that could be evaluated for suitability that is especially pertinent to safety critical organisations is a customised form of Crew Resource Management (CRM) training. The use of which has been found to significantly reduce the chances and consequences of failure, in fact its use in the aviation industry is very extensive and has been illustrated to offer very impressive results (Helmreich, Merritt and Wilhelm, 1999; Helmreich, 2000; Murray and Foster, 2000; Moray *et al.*, 2002; Thomas and Helmreich, 2002; Baker, Beaubien and Holtzman, 2003; Baker, Day and Salas, 2006; Nielson *et al.*, 2007; Flin, O’Connor and Crichton, 2008; Helmreich and Sexton, 2004a; 2004b; Yinong *et al.*, 2011; Gordon, Mendenhall and O’Connor, 2013). The specific branch of CRM team training that is appropriate to MRO’s is known as Maintenance Resource Management (MRM) (Sian, Robertson and Watson, 1998; FAA, 2005) this is potentially more suitable than CRM due to its dedicated role within aviation maintenance. After an assessment and once the training elements were identified they should be refined and the program subject to regular maintained and review by creating appropriate infrastructure that is subject to monitoring. This will ensure its content remains appropriate, relevant and it is delivered on a regular basis (Kirkpatrick, 1994; Cannon-Bowers, Salas and Tannenbaum, 1995; Bates, 2000) without any pause or cessation. It is strongly felt that these training recommendations will assist Company ‘A’ in getting a lot more value out of its present teamworking regime and further improve individual, team and leadership efficiency which will progress overall organisational performance.

## **6.5 Research Question Two**

### **6.5.1 Question Two Review**

Research question two queried “*are the current team roles and responsibilities relevant and worthwhile?*”



### **6.5.2 Definitive Contribution and Classification**

A summary of the contributions and the appropriate classifications that are applicable to this research question are provided in Table 6.2, the contribution to knowledge and practice are discussed in an in-depth manner as well as any associated recommendations.

**Table 6.2:** The conclusion of analysis and classification of the contribution to knowledge of research sub question two.

<b>Research Question</b>	<b>Definitive Contribution</b>	<b>Classification</b>
• <b>Are the current team roles and responsibilities relevant and worthwhile?</b>	• Team roles and responsibilities are clearly defined.	• Supports current knowledge and practice.
-----	• Team roles are operating efficiently and effectively with team members equally enthusiastic to participate.	• Advance of practice.
-----	• Team roles and responsibilities should be subject to regular review.	• Supports current knowledge. • Advance of practice.
-----	• Team members should receive training to enable them to effectively perform the required team roles and responsibilities.	• Supports current knowledge. • Advance of practice.
-----	• Team roles and responsibilities should be accountable.	• Supports current knowledge. • Advance of practice.
-----	• Enthusiastic team members can sometimes be burdened with team roles and responsibilities by middle management which is a cause of resentment.	• Advance of practice.
-----	• Team roles and responsibilities can be subject to modification if required.	• Supports current knowledge and practice.
-----	• The team roles and responsibilities supporting infrastructure must be effective and complimentary.	• Supports current knowledge. • Advance of practice.
-----	• Team roles and responsibilities were not introduced incrementally which affected team members ability to be effective.	• Supports current knowledge. • Advance of practice.
-----	• “Starpoint” meetings are often called off at short notice, have an irregular frequency or are not long enough, impacting their effectivity.	• Advance of practice.

Source: Developed from Data Generated by this Research (2018).

### **6.5.3 Contribution to Knowledge**

When assessing this research question for its contribution to knowledge, the findings offered support for several relevant aspects found in the literature. The subjects suggested the current team roles and responsibilities are clear and everyone is aware of what is required when performing the roles. This is classed as crucial and concurs with work by Volpe *et al.* (1996); Sims, Salas and Burke (2004); King, Goudie and Dominey-Howes (2006); Smith-Jentsch *et al.*, 2008; Humphrey, Menor and Morgeson (2009) Crowston, Wiggins and





Howison (2010) and Fapohunda (2013). It was also found that team members clearly act as a collective and combine resources when needed which is an important team aspect and verifies work by Parker (1990); Guzzo and Salas (1995); Mickan and Rodger (2000); Katzenbach and Smith (2003); Boddy (2008); Prosser (2010) and Matthews and McLees (2015). There was further evidence that team members participate equally in the team roles and responsibilities supporting work by Blanchard (1997) on the matter.

There are some issues present with accountability which the subjects suggest is totally absent, team members did not feel comfortable with this and requested that it is addressed by putting sufficient measures place that ensures that the team functions have consequences, this is a profound theme in work by Sundstrom, DeMeuse and Futrell (1990). Some interviewees alluded to the fact that some middle managers can place increased responsibility on the more enthusiastic team members and that the members in question complained that they find these demands tiring and overwhelming, and it can lead to a reduction in enthusiasm and well-being, this concurs with work by Porter *et al.* (2003).

When assessing the state of the roles, on balance they were found to be flexible and could be modified if desired, this suppleness is important, and the positive aspects are supported in work by Blechert, Christiansen and Kari (1997) and Cox (2006). There was some evidence found of problems with the infrastructure that supports the team roles and responsibilities. This has the potential to affect the ability of team members to perform them in the most effective manner possibly, such issues with unstable infrastructure affecting the ability of team members to satisfactory execute allocated team roles concurs with work by Sundstrom, De Muse and Furtell (1990). Again, lack of training which has already been discussed in depth needs to be addressed in this team component, members indicated they cannot perform to the best of their ability in the present roles and responsibilities without having the appropriate training (Hertel, 2011; Harter *et al.*, 2009). Another pertinent point raised by the subjects were comments on how the organisation rapidly migrated to teamworking. Many indicated they felt the pace of change affected their ability to perform the roles and responsibilities effectively as it was enacted far too quickly and without any incremental transfer of authority, problems associated with this support work by Carroll (1986); Wellins, Byham and Wilsen (1991) and West and Markiewicz (2004).



#### **6.5.4 Contribution to Practice**

When assessing current practice Company 'A' regarding team roles and responsibilities it is clear the "*Starpoint*" roles are passionately supported by almost all the production area personnel. Furthermore, the findings suggest that the current roles are performed effectively, and their functionality is considered appropriate and fit for purpose and in most teams each member shares the burden fairly. Importantly they are flexible, and can o be subjected to change when and if needed. Interviewees did reveal they had not received any training related to the roles and responsibilities and they were introduced to teamworking far too quickly for them to be effective especially during the initial introduction.

It was clear that presently the team roles at Company 'A' lack any proper accountability and some subjects suggested management often saddle the more enthusiastic team members with additional responsibility, this is an unfair practice and tantamount to the introducing of conflict and poor morale to teams, it can also erode enthusiasm for the members in question. There were also concerns expressed about the length and frequency of the relevant team role meetings. When investigated further it were found that meetings are subject to regular change or even cancellation, often with limited or no notice, this question the infrastructure is introduces doubts if it is currently suitably maintained and regulated. The subjects also indicated that the roles had not changed in fundamental function since the initial introduction of teamworking at the organisation many years ago, although this is something that is presently under review.

The overall contribution to practice in the context of this research question is the organisation is currently performing an in-depth review of all team roles and responsibilities at the facility. The strategic review includes performing an assessment of the relevancy of the present "*Starpoint*" roles, what shortfalls exist, which ones are no longer appropriate as well as rules being drawn-up governing the appropriate use and maintenance of any supporting infrastructure. This is linked to the teamworking strategic assessment being undertaken which has one of many objectives that include making all roles clear, accountable and bounded once complete. It will also aim to provide updated team roles and responsibilities and verify and ensure their viability for continued use within the future teamworking structure that will eventually be introduced to Company 'A', supporting infrastructure will also be appraised.



### **6.5.5 Recommendations of Changes to Present Practice**

Good structure around team roles and responsibilities are required by organisations that embrace teamworking, they also need to be relevant and indispensable (Guzzo and Shea, 1992). There must be appropriate mechanisms of accountability introduced for all teams (Sundstrom, DeMeuse and Futrell, 1990) something that has been found to be clearly absent and incidentally interviewees were eager to see corrected.

There is evidence of unnecessary pressure being placed on more enthusiastic team members than ones who are more relaxed in performing their team roles or avoid them altogether, it is vitally important to the very fabric of teamworking that all the roles and responsibilities are shared equally (Parker, 1990; Guzzo and Salas, 1995; Harris and Harris, 1996; Mickan and Rodger, 2000; Katzenbach and Smith, 2003; Porter *et al.*, 2003; Boddy, 2008; DeMeuse *et al.*, 2009; Prosser, 2010; Matthews and McLees, 2015). The organisation needs to ensure such practices are discontinued and put appropriate safeguards in place to ensure everyone participates fairly. It is recommended that Company 'A' encourages greater interdependence within the teams as when high then the performance of teams is also increased (Gully *et al.*, 2002; Allan and Hecht, 2004). Company 'A' should put more accountability on the "Starpoint" roles and redeploy any individuals who are unable to collaborate effectively with others in the team (Beckham *et al.*, 2015).

If employees are still not prepared to participate equally in the team's roles and responsibilities or they display repeated interpersonal issues that are found to be influencing a team's performance, it may be necessary to remove these members from the team. This must be executed carefully, and alternative roles found for the offending individuals, this is something that is currently not undertaken, although it should be considered a last resort as it can influence other team processes, norms and cohesion. Teams that are coherent and in balance have been found to be far more productive, Belbin (1981; 1993; 2010) passionately argues this in his work, the alternative un-balanced teams can perform increasingly unsatisfactory (Vrgan de Water, Ahaus and Rozier, 2008). Therefore, the removal of dissident members is justified and is the most suitable course of action to easily increase a faltering team efficiency. The final recommendation is any future increases in team authority are released on an incremental basis not ceded to teams too swiftly as was done during the initial transition, this proposal is supported by Carroll (1986) and Wellins, Byham and Wilson (1991).



## **6.6 Research Question Three**

### **6.6.1 Question Three Review**

Research question three was possibly the most controversial matter explored during the interview phase. Its objective was to investigate “*would an incentive scheme have a positive or negative effect on team performance and productivity?*”

### **6.6.2 Definitive Contribution and Classification**

A summary of the contributions and the classifications applicable to this research question are provided in Table 6.3. They are followed by more significant discussions on the contribution to knowledge and practice, followed by recommendations.

***Table 6.3: The definitive contribution and associated classification to knowledge of research question three.***

<b><i>Research Question</i></b>	<b><i>Definitive Contribution</i></b>	<b><i>Classification</i></b>
• <i>Would incentives have a positive or negative effect on team performance and productivity?</i>	• <i>The use of incentives can create greater team performance.</i>	• <i>Supports current knowledge.</i> • <i>Advance of practice.</i>
-----	• <i>The use of incentives can have a negative effect on team performance.</i>	• <i>Supports current knowledge.</i> • <i>Advance of practice.</i>
-----	• <i>Incentives can create a culture of sabotage and detrimental to product quality.</i>	• <i>Supports current knowledge.</i> • <i>Advance of practice.</i>
-----	• <i>Incentive schemes should be universally available for all employees within an organisation regardless of role.</i>	• <i>Supports current knowledge.</i> • <i>Advance of practice.</i>
-----	• <i>Local and individual incentive schemes can cause team disruption.</i>	• <i>Supports current knowledge.</i> • <i>Advance of practice.</i>

*Source: Developed from Data Generated by this Research (2018).*

### **6.6.3 Contribution to Knowledge**

From a contribution to knowledge perspective the findings associated with this research question illustrates support for literature regarding the positive outcomes associated with incentive schemes in work by Tata and Prasad (2004) and Aime *et al.* (2010). On the opposite end of the continuum there is also support for literature that outline there can be negative effects created by incentive schemes such as recipients attempting short-cuts, becoming reckless and organisations experiencing a unexplained reduction of product quality (Lazear, 1989; Drago and Garvey, 1998; Rayo and Becker, 2007; Carpenter, Matthews and Schirm, 2010; Delfgaauw *et al.*, 2010; Frank and Obloj, 2013). Some interviewees also



indicated the when incentives are introduced they can possibly undermine the whole team management method by risking cohesion and team unity, this concurs with work by Kettler (2000); Reilly, Cummings and Bevan (2001); Armstrong (2002) and Reilly (2005). The subjects also indicated that if an incentive scheme was launched then it should be applied universally to everyone at Company 'A'. All members of the organisation should receive the same amount of compensation no matter what their input was, this supports work on the matter by Hackman, (1991) and Sorauren (2000). Other points that offered defence to relevant literature include the subject's belief that if incentive schemes are introduced and they are not all inclusive and universally applied they can be extremely divisive, disruptive and provide a of extreme source resentment, this aligns with work by Shea and Guzzo (1989); Encinosa, Gaynor and Rebitzer (2007) and Bamberger and Levi (2009). Further criticisms of incentive schemes found in the literature include they can cause previously high achieving employees to become demotivated, increasingly so when they see others rewarded for less effort (Suff, Reilly and Cox, 2006); this was found to be of great concern to several subjects.

#### **6.6.4 Contribution to Practice**

In practice, the use of incentives to aid the accomplishment of certain organisational goals was initially welcomed many subjects. After further assessment it become evident that a slight minority truly believed such a scheme could have a negative effect on team cohesion and employee morale and should therefore not be implemented. Further dialogue suggested that if the organisation did go ahead and introduce an incentive scheme its benefits must be fairly distributed to all employees to preserve team cohesion, employee morale and organisational stability. Many subjects were particularly concerned with the effect such a scheme would have on the long-standing collective bargaining agreement between management, the recognised union and the production area employees indicating that it may become a threat to the current unity of such stakeholders, that could possibly threaten the strategic direction of the organisation.

Other negatives discussed that could adversely affect current practices include the potential to lower product quality because teams could start to rush production and cut corners to maximise their respective bonuses. Such a scenario would have huge implications in a safety critical organisation such as Company 'A', especially aerospace where quality and first-time defect free yield is paramount to ensure elevated levels of quality and safety are



maintained. Any method of working that makes people hurry in pursuit of an incentive would possibly compromise this overwhelming pillar of safety which is essential in this organisation. The overall contribution to practice is due to the strong emotion displayed by the subjects and the considering the negative aspects associated with incentives the facility should continue to participate in the current mechanism of collective bargaining where the union negotiate on behalf of the production area personnel for increased compensation and benefits. This method is fair, universal, firmly established and a fully agreed and healthy mechanism of negotiation this is held in high regard by all relevant stakeholders.

#### **6.6.5 Recommendations of Changes to Present Practice**

When assessing the impact of introducing incentive schemes they are often found to have negligible effect on increases in productivity. In the cases where there have been improvements, the effect is usually only short-term and quickly diminishes over a limited period, leading to claims they only offer modest improvement at best (Babcock *et al.*, 2012). Taking this into account and the potency of unfavourable sentiment displayed by the interviewees, a very strong recommendation to the organisation is it does not consider the introduction of any kind of incentive schemes because of the extremely high probability of causing widespread disruption to organisational strategy and current operations and (Lazear, 1989; Drago and Garvey, 1998; Kettler, 2000; Kirkman and Shapiro, 2000; Reilly and Bevan, 2001; Armstrong, 2002; Reilly, 2005; Suff, Reilly and Cox, 2006; Encinosa, Gaynor and Rebitzer, 2007; Rayo and Becker, 2007; Dumont *et al.*, 2008; Carpenter, Matthews and Schirm, 2010; Delfgaauw *et al.*, 2010; Frank and Obloj, 2013). Therefore, no changes are needed to current practise regarding this matter.

### **6.7 Research Question Four**

#### **6.7.1 Question Four Review**

Research question four inquired, “*do team members consider the present team decision-making processes to be fair and effective?*”

#### **6.7.2 Definitive Contribution and Classification**

A summary of the contributions and appropriate classifications applicable to this research question are provided in Table 6.4. The discussion on the contributions to knowledge



and practice is followed by recommendations pertinent to the context of this research question.

**Table 6.4:** *The definitive contribution and associated classification to knowledge of research question four.*

<i>Research Question</i>	<i>Conclusion of Analysis</i>	<i>Classification</i>
• <b>What do team members feel about the present team decision-making processes is it fair and effective?</b>	• Decisions are made by a system of majority “democratic” voting in all teams resulting in feelings of increased well-being for team members.	• Supports current knowledge and practice.
-----	• It is important that all team members believe they are given a fair chance to voice their opinion during the decision-making process.	• Supports current knowledge and practice.
-----	• Strong levels of team cohesiveness results in an effective team decision-making process.	• Supports current knowledge and practice.
-----	• Clear and unrestricted communication by all stakeholders is key to satisfactory decision-making.	• Supports current knowledge and practice.
-----	• Decisions are made in a recognised forum that is regularly held by all teams.	• Supports current practice.
-----	• A “team constitution” or similar initiative should be established to ensure democratic systems continue to operate in a fair and just manner.	• Advance of practice.

Source: Developed from Data Generated by this Research (2018).

### **6.7.3 Contribution to Knowledge**

Whilst assessing the findings associated with this research question several contributions to knowledge were realised. All subjects clearly indicated that every decision made in each of their teams is conducted in a fair and democratic manner. This is paramount to effective teamworking as it is a fundamental component (Kerr and Tindale, 2004; Mannes, 2009) because it is a central process in all organisations and a basic task of management at all levels (Li, 2008).

The subjects clearly illustrated that the present system is robust and there are no indications of any barriers to input evident from any team members that want to share their opinion. Freedom-of-speech is a very important element of the team-decision-making process that concurs to work by Critchley and Case (1986); Harris and Harris (1996); Bradley and Frederic (1997) and Kets de Vries (1999) who all assert the importance that all members feel free to share their opinion on all matters. Unhindered input is also considered to be highly valuable by Micken and Rodgers (2000) who argue that broad levels of dialogue culminates





in more legitimate and meaningful decisions being made by teams, which is found to be an additional benefit to organisations.

Once decisions are made the interviewees suggested that all the teams accept the vote and proceed to execute it, there is very little evidence this leaves any members disgruntled. Each team does have a mechanism which allows them to revisit a decision if one or several team members feel particularly distressed about the outcome. This concurs with further work by Harris and Harris (1996) who promote the idea that teams reconsider decisions if there is enough demand. Such actions result in lower levels of interpersonal squabbles occurring between team members, which is obviously an advantageous position as proposed in work by Green and Taber (1980).

Cohesion levels also have implications for team decision-making processes, all subjects interviewed indicated that cohesion is relatively high in their respective teams. This is important as it allows members to be more supportive of each other than when arranged in non-cohesive teams, this supports work by George (2000) and De Jong *et al.* (2001) who both argue that elevated cohesiveness offers significant benefits to both the teams and the organisation. Ross (2006) and Plowman (2015) also found that cohesion aids better decision-making in teams and the process must be equally shared amongst members for cohesion to remain high (Annisseh and Yusuff, 2011; Perez, Cabrerizo and Herrerra-Viedma, 2011). All the interviewees indicated there is a satisfactory process of communication present in their respective teams. The efficiency of this system is also very important as it leads to more competent and inclusive decisions being made, this is supported work by both Andersen (2003) and Belbin (2016).

#### **6.7.4 Contribution to Practice**

In a practical context, the resounding answer to this question is that team decision-making and democracy are fairly practiced by all teams at the facility in a fair and just manner. It is evident that every team has an established and robust system for making decisions that takes into the account the opinion of all relevant stakeholders and can be flexible by offering to revisit decisions if needed. There were no problems reported in any part of the process by any subjects during interviewing, the process considered to be in a healthy state.



Team communication also has some pertinent implications for this process, all subjects commented that communications within their teams is effective and everyone has a fair chance of sharing their opinions in a managed and orderly forum. Maintenance of the “*status quo*” is therefore essential and no changes are required at present.

One issue is the continued absence of accountability for incorrect decisions being made by teams, there are no consequences for mistakes. Team members all indicated they would like the organisation to make the decision-making process accountable although they didn't reveal any direction for such a process. Accountability is an essential element of successful teamworking and a function that will aid the longevity of the method at the facility, therefore it needs attention as discussed.

The overall contribution to practice is the organisation is currently assessing the viability of a “*team constitution*” which will endeavour to enshrine the unwritten rules that have been informally established to support the present decision-making process amongst others. This will preserve and document some of the regulations that teams have drawn-up themselves over the years that are found to be fundamental to them functioning properly and in an orderly fashion. Formalising the current favourable practices are part of a wider effort to create Standard Operating Procedures (SOP's) for many team functions that has been developed over a considerable period by teams operating at Company 'A'. The SOP's will provide a constructive set of rules for teams to consult and will aid adherence as well as provide best practices for new teams to adopt easily in the future.

Further contributions to practice involve an assessment that is currently being undertaken on the level of accountability present in the current team decision-making process. This is part of the strategic review being undertaken on the future direction of teamworking at the facility which will also consider the recommendations of changes to present practice given in this chapter of the case study.

#### **6.7.5 Recommendations of Changes to Present Practice**

Decision-making is undoubtedly an important team component (Verzuh, 1999; Kerr and Tindale, 2004; Mannes, 2009; Serinkan and Kızıloğlu, 2015). At Company 'A' it is evident the process is in good health and all teams are actively engaged in fair and democratic methods for making decisions. One recommendation for change is teams are made aware of



potential problems that can affect the process, such as bias (Tindale *et al.*, 1996), “*team think*”, domination by stronger team members as well as potential conflict or decision fatigue that can result in the process being slow, inefficient and cumbersome (Hashim, Alam and Siraj, 2010; Lunenburg, 2010; Buckley, 2012). This will ensure valuable personnel and time resources are not wasted and serve to reduce the frequency of incorrect decisions being made (Hollnagel, 2004). Once again, the concerns mentioned can be mitigated by providing relevant training to team members. This will give them the necessary skills to recognise and correct any potential weaknesses in the present process and allow the available resources to be used in the most efficient and considerate manner possible (Ismail, 2011).

## **6.8 Research Question Five**

### **6.8.1 Question Five Review**

Research question five probed “*is the present role of middle management complementary to the teamworking strategy, inhibit it or have little or no influence?*”

### **6.8.2 Definitive Contribution and Classification**

A summary of the contributions and the appropriate classifications given to this research question are provided in Table 6.5. The applicable contributions to knowledge and practice as well as recommendations will be explored in further details in the subsequent discussions.

**Table 6.5:** *The summary of analysis and classification of the contribution to knowledge of research question five.*

<b><i>Research Question</i></b>	<b><i>Definitive Contribution</i></b>	<b><i>Classification</i></b>
<b><i>Is the present role of middle management complementary to the teamworking strategy, inhibit it or have little or no influence?</i></b>	<ul style="list-style-type: none"> <li>• <i>It is crucial there are clearly defined boundaries between managers and teams.</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Supports current knowledge.</i></li> <li>• <i>Advance of practice.</i></li> </ul>
-----	<ul style="list-style-type: none"> <li>• <i>Essential all roles are clearly defined.</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Supports current knowledge.</i></li> <li>• <i>Advance of practice.</i></li> </ul>
-----	<ul style="list-style-type: none"> <li>• <i>Integrating former managers into a team can be problematic.</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Supports current knowledge.</i></li> <li>• <i>Advance of practice.</i></li> </ul>
-----	<ul style="list-style-type: none"> <li>• <i>Former managers can often become resistant when losing their authority.</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Supports current knowledge.</i></li> <li>• <i>Advance of practice.</i></li> </ul>
-----	<ul style="list-style-type: none"> <li>• <i>Lack of interaction between Senior Leaders and production area personal can result in feelings of isolation and detachment by the former.</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Supports current knowledge.</i></li> <li>• <i>Advance of practice.</i></li> </ul>



-----	• <i>The current middle management tier can act as an inhibitor to teamworking.</i>	• <i>Advance of practice.</i>
-----	• <i>The current role of middle managers can sometimes be a cause of confusion.</i>	• <i>Advance of practice.</i>
-----	• <i>Middle managers require training to be effective.</i>	• <i>Supports current knowledge.</i> • <i>Advance of practice.</i>
-----	• <i>No coaching staff currently available to complement and offer advice to teams when required.</i>	• <i>Advance of practice.</i>

Source: Developed from Data Generated by this Research (2018).

### **6.8.3 Contribution to Knowledge**

Several findings offered support for some of the perspectives found in the relevant team literature, therefore providing a further contribution to knowledge. Work by Belbin (2016) clearly states it is crucial within a team environment that boundaries are present between managers and teams. As it is only when these are clearly defined that managers are fully aware of what level of authority they can continue to exercise (Kuyvenhoven and Buss, 2011; Raelin and Cataldo, 2011) and teams know the boundaries of their control, many interviewees indicated clear support for this suggestion. Further correlations include work by Fisher (2000) and Procter and Benders (2014) who propose that former managers can often struggle to be part of a team, they display high emotion because they often battle to comprehend the loss of authority, many interviewees agreed with this proposition and gave practical examples supporting the relevant pool of knowledge.

Another standpoint that the subjects supported and offered practical examples of compliments work by Denham, Ackers and Travers (1997); Fenton-O'Creevy (2001); Holden and Roberts (2004) and Psychogios, Wilkinson and Szamosi (2009) who all state that when former managers are demoted to being ordinary team members they not only struggle from losing their former authority but they can become a source of disruption and threaten the cohesiveness of the team they are placed within. This has clearly been found to be correct when applied to Company 'A'. Other points raised that are supported in the literature were based around the production team's level of interaction with senior leaders, all subjects indicated that increased interaction would benefit the teams and the organisation alike as proposed in work by Jones (2006).



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#### **6.8.4 Contribution to Practice**

When applied to a practical context the interviews suggest the answer to this question was generally no. The current middle management role acts as an inhibitor to teamworking and most have little or no influence and are considered by some team members as domineering and disruptive force. They are also believed to be counterproductive to efforts made by members to operate within a team framework. It was stated several times during the interviews that the present middle management roles certainly do not compliment effective teamworking. Therefore, it is strongly believed that currently the role of middle management is not working satisfactory and does need attention.

There is further evidence of conflict between the role of middle managers and the team methodology. There was also a lot of resentment present amongst the production area personnel of where the actual boundaries between the two management methods are, where does the managers authority stop, and the team's autonomy start and visa-versa. Furthermore, many interviewees questioned what the actual role of middle manager entails, no single subject was aware of a formal job description for the role and after consulting the relevant community and the organisations HR department it become evident this is sincerely correct. On further examination it was found that not even members of the middle management level are aware of a formal job role or where the exact boundaries of their role are. This community has also not been found to be in receipt of any training nor are capable of provide any form of coaching to the teams because they lack the necessary skills to be able to do so. The overall contribution to practice regarding this research question is the organisation is now in the process of establishing boundaries for both the middle management and the production area teams. They are also considering the viability of turning the present middle management community into coaches to assist the teams and not direct as they do at present, this is part of the strategic teamworking review.

#### **6.8.5 Recommendations of Changes to Present Practice**

Managers are crucial to team success (Van Brunt, 2012) they need to be strong to ensure effective teamworking (Peterson, 1997; Kumarasinghe and Hoshino, 2010; Sohmen, 2013; Matthews and McLees, 2015). Therefore, it is recommendation to practice that all middle management (Kuyvenhoven and Buss, 2011; Raelin and Cataldo, 2011) and the teams



alike (Micken and Rodger, 2000) are given a clear set of concise boundaries to their roles (Belbin, 2016). The aim of this would be for each to aid and complement one another's strengths and offer support to any weaknesses found. A further recommendation specific to the teams and middle management is there needs to be increased levels of interaction between all these factions and the senior management team at the facility (Jones, 2006). This will aid organisation communications from all levels and should be undertaken all year round, not only during critical periods as is presently accomplished.

It is also recommended middle managers are given appropriate training (Zaccaro, Rittman and Marks, 2001; Huy, 2002; EFILWC, 2008; Gilley *et al.*, 2010; Kettle, 2015) and encouraged to expand their skills (Cascio and Wynn, 2004) as several proficiencies have been highlighted as deficient in this community. Elevated levels of competency in managers is of paramount importance (Leggat, Balding and Anderson, 2011), they should also learn to be expert communicators (Bryant and Stensaker, 2011) and have the necessary skills to effectively manage conflict (Raza and Standing, 2011) and provide facilitation (Gilley *et al.*, 2010). They should also be trained to further their skills to aid them to become effective coaches as this will provide further assist to their respective teams (Van de Water, Ahaus and Rozier, 2008; Clutterbuck, 2009; Hicks, 2010) as this is a very important function that is currently clearly missing.

## **6.9 Summarised Research Problem Resolution**

### **6.9.1 What Inhibits Teamwork in Safety Critical Organisations?**

So “*what inhibits team work in safety critical organisations?*” There are several factors present that have an influence on this when applying the research problem to the practical context in operation at Company ‘A’. There is significant concern evident within the teams at Company ‘A’ regarding team specific training. There is a distinct lack of team training found which when consulting the relevant literature and team members alike is found to be particularly pertinent to effective teamworking, its absence is considered to severely inhibit the effectivity of teamworking. The transcripts indicated that the team members agreed that training would be welcomed because it is highly likely it would assist teams to be more efficient and give members the necessary skills they currently lack. Training would also allow them to perform better within their respective teams because they simply do not know how to improve at present. Such interventions should be formulated specifically for the context in



which they are relevant to ensure they are delivered at minimal cost and disruption to the organisation.

When assessing the effectiveness of the present team roles and responsibilities they were found to be working satisfactory. The current “*Starpoint*” roles are also held in very high regard by practically all production area personnel, they are also undertaken with significant enthusiasm. There is however some frustration present because there is an absence of robust infrastructure and rules that underpin the roles. This is an area that requires attention by the organisation as it has a significant effect on team members enthusiasm to participate in the roles and it is believed to be an inhibiting factor on effective team functionality. To mitigate these concerns meaningful infrastructure should to be developed to ensure the roles are value added. The transcriptions imply that such efforts will be enthusiastically received by the teams and would only serve to benefit teams and their member as well as the organisation, this is part of the current strategic review.

Next factor to consider is the use of incentives, it was found that such a scheme should not be introduced unless it was a companywide one where everyone would benefit equally, and then it should be applied with caution. The present absence of an incentive scheme was not found to inhibit teamworking at the facility in any way. It was more a case that such a scheme would probable cause disruption especially if introduced on an individual or team only basis. The data suggests that this would only serve to alienate the production area teams and act as a further obstacle to them reaching the desired high-performing state.

The team decision-making processes were all found to be acting in a fair and democratic manner and team members are content with the current structure of the process although they are only informal. One aspect that could inhibit its operation is the lack of a documented and formulised system being in place that would enshrine the present process, this would ensure continuity and longevity, this is being addressed by utilising of team SOP's which will give guidelines on the appropriate parameters of processes such as this one.

Finally, there were issues found that inhibit teamworking when considering the role of middle management and their interactions with teams. They were found to lack clear boundaries and are not considered to be making a proportional impact in their current





configuration. The transcriptions indicate the role needs attention and should be developed by training into order to offer more coaching and assistance to the teams and become more of a facilitation-based role. There is a lack of boundaries present and what the role comprises of, the presence of clear management roles in a team environment are considered essential by both the relevant literature and teams alike. Therefore, a full assessment of the role of middle management needs to be undertaken to determine its function within Company 'A'.

A tabulated summary of the findings is provided in Table 6.6. It clearly illustrates the relationship between the five emergent themes generated during the analysis of the transcriptions, the significant points found in the relevant literature, the case study's conclusion and the learning outcomes associated with each. This completes the solution offered for the research problem considering the areas addressed by each research question. The limitations associated with this case study will then be subsequently deliberated.



**Table 6.6:** A summary of the emergent themes, significant points raised in the relevant literature, case study findings and the learning outcomes achieved.

Emergent Theme	Significant Points Raised in the Relevant Literature	Case Study Prominent Findings	Learning Outcomes Achieved
<b>“The Implications of Effective Training to Teamworking”</b>	<ul style="list-style-type: none"> <li>Team training is essential for teamworking to be effective and allows members to become more effective and possess the necessary skills that are needed to confront the challenges of teamworking.</li> <li>It is essential that some team training is given at the very beginning of the transition from a hierarchical system to teamworking, even if only a limited amount.</li> <li>Team training interventions must be tailored to the environment in which they are going to be practised.</li> <li>Cross training is an effective training intervention when delivered to team members enabling them to be increasingly competent at team specific tasks.</li> <li>CRM or MRM has been found to offer particularly encouraging results when utilised in industries that are classified as HRO organisations.</li> </ul>	<ul style="list-style-type: none"> <li>It was found that only one single and very brief team training intervention was delivered to all team-based employees several years ago. This was very limited in scope and only delivered at a high-level. There has been no further training given since this in any form.</li> <li>A system of cross training is active within teams and is found to be a very effective medium in which to train team members “on the job.”</li> <li>No CRM or MRM training has been delivered or even considered with any teams or team members at Company ‘A’.</li> </ul>	<ul style="list-style-type: none"> <li>This area of teamworking was found to be of the greatest concern of all the matters investigated.</li> <li>Team training is severely underdeveloped at the facility.</li> <li>A bespoke program of team training needs to be introduced that considers the organisations context and strives to deliver multiple learning outcomes to aid team members to effectively operate within a team environment and have the necessary skills to be able to overcome any challenges they are presented with daily.</li> <li>An evaluation should be performed of the viability of CRM or MRM training programmes to assess the impact they would have on teamworking at the organisation.</li> </ul>
<b>“The Significance of Established Roles and Responsibilities to Teamworking”</b>	<ul style="list-style-type: none"> <li>Clear team roles and responsibilities are required for effective team operation which must have defined boundaries and be subjected to regular review by the host organisation.</li> <li>When appropriate training is given the roles and responsibilities have been found to operate more effectively than prior.</li> <li>All team roles and responsibilities must have appropriate accountability.</li> <li>It is important that team members who are enthusiastic are not always burdened with the team roles and responsibilities, it is essential everyone shares all the roles equally.</li> </ul>	<ul style="list-style-type: none"> <li>There are several team roles and responsibilities present that are termed “Starpoints” they are found to be operating in an effective manner and are enthusiastically supported by almost all team members, practically everyone was found to participate equally within them.</li> <li>The associated infrastructure does require some attention as it has been found to be weak in some areas and not providing a satisfactory conduit for team “Starpoints” to deliver the role in an effective manner.</li> <li>No training has been given to any team members on how to most effectively</li> </ul>	<ul style="list-style-type: none"> <li>The current team roles and responsibilities are working effectively although there are some issues present with the supporting infrastructure.</li> <li>Team roles and responsibilities must have meaning and perform a practical function within the organisation otherwise they can be subject to poor engagement and only practiced in a frivolous manner. Associated meetings should have a regular frequency and offer meaning and be value added to ensure enthusiasm.</li> <li>Each of the team’s roles and responsibilities should be subjected to regular review.</li> <li>An appropriate amount of accountability should be developed to ensure the roles are culpable and team members are held responsible for role related decisions.</li> </ul>



		<p>participate in the team roles and responsibilities,</p> <ul style="list-style-type: none"> <li>• There is no accountability presently for making poor decisions when participating in the team roles and responsibilities.</li> <li>• During the case study some evidence was found that more enthusiastic team members are sometimes burdened and possibly perform the team roles and responsibilities more frequently than their less enthusiastic team colleagues.</li> </ul>	<ul style="list-style-type: none"> <li>• There must be safeguards put in place to ensure that every team members equally shares the team's roles and responsibilities to ensure fair distribution of appropriate tasks.</li> </ul>
<p><b>“The Use of Incentives to Enhance Team Performance”</b></p>	<ul style="list-style-type: none"> <li>• Incentives are linked to improved levels of team performance also there are some cases where the opposite has occurred, and they have led to a negative impact on some aspects of teamworking.</li> <li>• Incentives have been found to encourage sabotage and lead to lower product quality because personnel are prepared to cut corners to increase output and maximise bonuses, although this is in found in a low minority of cases.</li> <li>• The best results of incentives have been found when schemes are all inclusive, all staff are offered an equal share of any incentives. This mitigates the disruptive effectives found present in many local and individual schemes.</li> </ul>	<ul style="list-style-type: none"> <li>• The introduction of an incentive scheme would be more divisive than having a positive impact on production. There are many factors for this conclusion. These include the long standing established system where the current workforce negotiates with the company's management via a union that acts as one via a collective bargaining agreement.</li> <li>• There was a lot of concern that any changes to the collective bargaining could affect the organisations production areas elevated levels of unity.</li> <li>• There is a strong regulatory input which is also a barrier to the introduction of an incentive scheme as many practices are governed by either regulators or via original equipment manufacturers strict processes which must be adhered to always with very limited scope for any deviation allowed.</li> <li>• A companywide scheme could be potentially introduced but only if shared equally amongst every member of the organisations with no difference made for position.</li> </ul>	<ul style="list-style-type: none"> <li>• Incentive schemes should not be currently considered for introduction to the organisation.</li> <li>• Incentive scheme must be carefully considered prior to implementation. Factors to be aware of include the organisational context to which they are planned to be applied and the tasks that will be affected as well as the staff that will be considered for inclusion into such scheme.</li> <li>• The careful application is especially poignant in a HRO or other industry that cannot be operated as an assembly line and where safety and superior quality decision-making are of paramount importance due to the potentially catastrophic consequence of failure within such organisations.</li> </ul>



<p><b>“The Process of Making Decisions Within Teams”</b></p>	<ul style="list-style-type: none"> <li>• The fair and democratic method of making decisions results in positive outcomes in teams with members illustrating increased signs of well-being and team satisfaction.</li> <li>• All team members should have an equal voice that carries the same weight as their fellow team colleagues and everyone must have equal opportunity to speak and be heard.</li> <li>• It is generally believed that the more cohesive the teams becomes the better the decision-making process becomes, it is also vital all communications are clearly delivered.</li> </ul>	<ul style="list-style-type: none"> <li>• The current process for making team decisions is fair and democratic in all teams.</li> <li>• There were no instances of any team members feeling disgruntled or frustrated and all agreed the current system works satisfactory.</li> <li>• There is no formal method for making decisions and the teams have developed their own methods that are very similar throughout the facility.</li> </ul>	<ul style="list-style-type: none"> <li>• This system is found to operating in a fair and effective manner and needs only minor improvements.</li> <li>• The establishment of a team constitution would enshrine the decision-making process and formalise it.</li> <li>• This would ensure the system is preserved and remains in a healthy state and not subject to local modifications by teams or dominant team members.</li> </ul>
<p><b>“The Role of Middle Management Within the Team Environment”</b></p>	<ul style="list-style-type: none"> <li>• In any teamworking environment there must be clear boundaries present between management and the actual teams, everyone must know their parameters and what level of authority they hold and when the limits of this authority are being tested. This ensures all stakeholders do what is appropriate to their role.</li> <li>• Former managers can struggle when stripped of their authority and be a source of disruption when placed within a team or never properly be a fully-fledged team member.</li> <li>• Elevated levels of interaction between teams and management result in more effective teamworking and other organisational benefits.</li> <li>• Effective managers who possess the necessary skills are instrumental in ensuring that teams are successful, this relationship cannot be overstated.</li> <li>• Competent managers should possess excellent communication, facilitation and coaching skills this serves as a positive aid during their interaction with their respectable teams, this is achieved by giving managers and team appropriate training.</li> </ul>	<ul style="list-style-type: none"> <li>• The findings imply that a majority of the current middle management structure do not operate within any set boundaries and there is a large differential in what boundaries managers impose and teams can operate within. Essentially, the amount of autonomy is dependent on the manager’s unique style. This was found to be a cause of confusion, frustration and disruption within many teams.</li> <li>• There is limited interaction between some of the managers and the teams. Team members strongly suggested that senior managers and some middle managers are only present in the production areas during crucial production periods.</li> <li>• Managers do not currently offer any comprehensive coaching or facilitation to the teams at Company ‘A’.</li> <li>• Many managers are professed to be inexperienced by many team members.</li> </ul>	<ul style="list-style-type: none"> <li>• There are many issues presently found in this team component.</li> <li>• There needs to be boundaries created for the middle managers and production area teams alike, so each are aware of where their respective authority starts and stops.</li> <li>• Middle managers should receive training to ensure that they are competent communicators, facilitators and have coaching skills to ensure they can get the maximum out of their respective teams.</li> <li>• When re-deploying former managers, they should be carefully managed and given the necessary team training to ensure they do not become disruptive or threaten team cohesiveness.</li> <li>• Senior and middle managers must have a clear interaction with their respective teams not only during periods of heavy production or critical times.</li> <li>• Middle managers require training to ensure they can offer effective coaching and facilitation to help teams become high-performing.</li> <li>• It would be advantageous for a review to be undertaken of the management structure to ensure that the positions are held by experienced and competent personnel who clearly understand the business and realise the responsibilities of working in a HRO based organisation.</li> </ul>

Source: Developed for this Research (2018).



## **6.10 Solution to Gap Analysis of Key Areas with Pertinent Management Methods**

### **6.10.1 Management Method in Operating in Key Areas at Company 'A'**

Although Company 'A' professes to run using a system of teamworking an important assessment was undertaken to determine “*what management method is operating in the key areas of team training, team roles and responsibilities, team incentivisation and team decision-making at Company 'A'?*”. This is the solution to the gap analysis undertaken in chapter 2, section 2.4.1.

Interestingly after an appraisal of the relevant findings it become apparent there is a complicated amalgamate of several management methods currently operating at Company 'A'. Considering the facility replaced the former scientific management method in the early 1990's there are still some minor features evident of the former hierarchal method, albeit extremely limited. To add to the complexity soon after teamworking was introduced the organisation also commenced using lean management methods in parallel with the teamworking methodology. There is a strong lean influence present and team members are encouraged to become involved in lean activities. Teams are often held jointly responsible for enacting change in their respective areas with support from local management utilising lean principals, this effectively creates a healthy partnership for change albeit somewhat complicated.

When individually assessing each of key areas addressed during the literature review the transcripts are clear that team training is the responsibility of management with no input currently given on content or delivery by any of the teams or members. This hint of remnants of the former scientific management still being present because it follows the formal rational approach (Mintzberg and Lampel, 1999). It is clearly driven from the top-down with training instructions structured and liner (Andrews *et al.*, 2009; Walker *et al.*, 2010). This is opposed to the principals of teamworking as there is not an environment that encourages team members to be involved, share responsibility or even totally own the component, which would be encouraged in a “*fully autonomous*” team-based system.

The exception is responsibility and execution of “*on the job*” inter-team training whose execution lies exclusively with the teams with no management input. This is something



that is working extremely effective and allows team members to freely distribution their skills and knowledge to others (Morgeson, DeRue and Karam, 2010).

The next key area to assess is team roles and responsibilities, which after analysis is the shared responsibility of both management and the teams with practically equal input being given from both parties. There is a culture of continuous improvement present that is based on strong involvement of all employees (Byfuglien, Torstensen and Trolie, 2014), both co-operate well together with no issues present and follow the principals of lean management.

When appraising the use of incentives, although no such scheme is in operation at the organisation if one was introduced it is likely that the supporting infrastructure would likely be the responsibility of management alone, with the accountability and delivery resting with the teams. This is because monetary rewards would remain the responsibility of management. It is recommended that if such scheme was embraced it would be setup with the co-operation of the teams to ensure it suitability, therefore it would likely follow lean principals.

Finally, the last key area to be evaluated is the team decision-making processes. This area is found to be wholly owned by the teams and firmly within their total and unhindered jurisdiction. It is therefore a genuine example of true team management where members are free to exercise significant authority and make the important decisions (Parker, 1990; Wellins *et al.*, 1990; Katzenbach and Smith, 1993; Cohen and Bailey, 1997). This involvement allows for considerable influence to be placed on the stated organisation outcomes and consequentially allows teams to contribute significantly to organisational success.

**Table 6.7:** A comparison of key literature areas discussed with who typically holds responsibility when considering three management methods with the findings of this case study.

<b>Key Area Identified</b>	<b>Responsibility for Key Area in an Organisation Using Scientific Management Methods</b>	<b>Responsibility for Key Area in an Organisation Using Lean Management Methods</b>	<b>Responsibility for Key Area in an Organisation Using Teamworking Management Methods</b>	<b>Responsibility for Key Area in Company 'A' As Determined from the Findings</b>
<b>Training</b>	• Managers responsibility.	• Manager and team's joint responsibility.	• Team's responsibility.	• Managers responsibility. / Team's responsibility. • Lean Management.
<b>Roles and Responsibilities</b>	• Managers responsibility.	• Manager and team's joint responsibility.	• Team's responsibility.	• Manager and team's joint responsibility. • Lean Management.





<b>Incentivisation</b>	• Managers responsibility.	• Manager and team's joint responsibility.	• Team's responsibility.	• Managers responsibility. • Scientific Management.
<b>Decision-making</b>	• Managers responsibility.	• Manager and team's joint responsibility.	• Team's responsibility.	• Team's responsibility. • Teamworking Management.

Source: Developed for this Research (2018).

Unfortunately, there are no comparisons that can be found of similar operational environment that necessitates employees are highly skilled whilst demanding they undertake work that requires high reliability to be present. Therefore, after assessment it can be claimed that the current management system in operation at Company 'A' has developed into a complex hybrid of all three management methods. It can be defined as essentially a "*high reliability operational environment that functions principally by a system of teamworking, considers lean management, with very minor elements of scientific management still apparent*", it is therefore a very contingent and specific system.

## **6.11 Limitations of this Research**

### **6.11.1 Exploring Relevant Limitations**

Limitations or weaknesses exist in every study, if they are addressed properly they do not necessarily detract from a study's value (Bernard, 2013). It is obligatory for a researcher to ensure they are fully aware of the inherent limitations present within the chosen research methodology and adopt techniques and employ mitigating actions that will overcome them or at the very least reduce their impact as much as is reasonably practical. The limitations appropriate to this case study and the mitigating actions taken are discussed further in the following subsections.

### **6.11.2 Number of Subjects**

Interviews were conducted with twenty-two randomly chosen subjects, this is within the range that is considered acceptable (Warren, 2002; Ritchie, Lewis and Elam, 2003; Green and Thorogood, 2004; 2009; Guest, Bunce and Johnson, 2006; Brannen, 2012; Creswell, 2014). Further support is offered by Patton (2002, p. 244) who simply states, "*there are no rules for sample size.*" The chosen population is a fair representation of each of the eleven major areas in Company 'A' although it is acknowledged that a larger sample population could have possibly been used. This choice was however limited by the available resources and keeping the study within achievable and realistic goals in view to complete it satisfactory.





### **6.11.3 Organisational Representation**

The case study was undertaken in a single organisation that could lead to claims it lacks significant depth. A single point being used for data collection is partly a result of considering the practicalities of what resources were available and ensuring they were utilised in the most productive manner possible.

### **6.11.4 Access to Other Safety Critical Aviation Sites**

Another limitation that is closely related is the former is the fact that the study took place in an organisation operating in the safety critical aviation sector. It is well documented such sites are renowned for being difficult to attain entry. This is because they are required to maintain elevated levels of security and are therefore notoriously hard to access by individuals with no connection. They can also be rightfully suspicious of such individuals who randomly enter discussions on admission. This doubt is driven by security concerns and recent world events. To protect these strategic assets the process of visiting involves significant background security checks which is beyond the resources and the influence of the researcher. This further strengthens the argument for the study being undertaken at a single site.

This concludes the limitations; future work will be the next discussion point. The possible avenues of further research will be explored that would serve to complement the work already undertaken during this study.

## **6.12 Future Work**

### **6.12.1 Recommendations for Future Work**

This case study has contributed to the team debate by interrogating the relevant literature and presented some fascinating findings in several key areas. It is however evident that as well as producing solutions to some matters this study has also identified yet more areas that would benefit from further research.

Addressing such areas can serve to further increase our understanding and complement the work already undertaken in this thesis. Not to be underestimated the chosen research arena is a distinguished and valuable resource that possesses a mature team culture which is an ideal environment and valuable resource in which to conduct further research on teamworking.



### **6.12.2 Performing Team Research in Other Aviation Facilities**

It is clear this case study was accomplished with limited resources that didn't allow interviews to be conducted at other facilities owned by the parent multinational. If the access, resources and opportunity were made available the results generated from expanding the study to other sites within the MRO network would no doubt offer some very interesting results. It would also potentially provide material that could be used to compare the results of the two studies which would likely yield further exciting findings.

### **6.12.3 Undertaking Research with the Management Team**

Further exploration could involve performing a similar case study with the senior and middle management population at the site to determine their opinion on the matters addressed in this thesis. It would be an interesting exercise to evaluate any divergent or convergent opinions and provide data that could be used in a comparable analysis which would likely foster further findings.

### **6.12.4 Culture and Teamworking in an 'Organisation with Memory'**

Other areas that could support future work include the effect of culture on teamworking. In the South Wales valleys many people cherish the idea of strong community values (Bauman, 2000; Studdert and Walkerdine, 2016) this is clear in the local culture. Company 'A' is a long-established organisation that has been operating for nearly 80 years, it is clear from the transcriptions that there is a strong cultural influence evident within the production area team members.

There is also evidence that organisational learning encompasses old knowledge and institutional memory that is held within the organisation (Ratnapalan and Uleryk, 2014). An interesting direction for future research could entail an investigation into establishing what the effects are of the strong local cultural undertones and how old knowledge and institutional memory impact teamworking at the facility. Interesting further studies could examine if such factors serve to inhibit, have a negligible effect or strongly impact the successful operation of the method; what can be changed to mitigate or even encourage such effects depending on what they are found to be.



Yet another opportunity for further examination could be performing an investigation if the manual form of employment re-creates the camaraderie and unity that were once pivotal to the survival of the South Wales valleys (Walkerdine and Jimenez, 2012). This would be a complex study that would possibly be addressed by performing an ethnographic longitudinal study, it would certainly yield some interesting findings.

#### **6.12.5 Gender and the Impact on Teamworking**

It could also be worth probing the role of gender within teamworking. Although during this study no differences of opinion between the sexes were highlighted when asked their opinion on what inhibits teamworking, a further study could aim to explore the matter in greater detail. An increased focus on the phenomena could determine if there were indeed any underlying differences in how the two genders view teamworking.

#### **6.12.6 Training, Longevity and its Effect on Teamworking**

A further interesting matter worthy of assessment for future study could involve training, longevity and teamworking. During this study several well-experienced members who have been arranged into teams for many years indicated that they would likely fail to benefit from any team training and it would therefore be a waste of valuable time and resources. A future investigation could study what outcomes team members could receive from team training when they have been practicing the method for a significant period-of-time. The research could determine if training would benefit members or would such an intervention fail to yield any impact because it is possible that team members are so well versed and accustomed to team practices because they had to persevere with as there were no alternative methods of management proposed. Such a study could also determine what types of training would be appropriate, what would be the least and the most helpful, if any. This would again yield some interesting findings and compliment work already undertaken by Morgeson, DeRue and Karim (2010); Assaf and Cvelbar (2011) and Kunze, Boehm and Bruch (2013) amongst others.

#### **6.12.7 Feasibility Study on the Genuine Cost of Maintaining Teamworking**

Finally considering there is vast support for teamworking in almost all industrial sectors there are some organisations that have reversed changes and reverted to a hierarchical method of management. This has been driven by a mixture of cost, employee and management dissatisfaction. A future angle of study could evaluate the cost of maintaining teamworking at



Company 'A'. This would provide the organisation with valuable data and offer others guidance on the budgetary impact of the method, allowing them to make a more informed decision on whether to implement teams, seek alternative means of managing their organisations or maintain the status quo. The case studies implications for teaching are next to be explored.

### **6.13 The Case Study and its Implications for Teaching**

#### **6.13.1 The Potential Teaching Implications of this Case Study**

Teaching and learning styles have evolved significantly in recent years and there has been a noticeable transition from lecture-based activities towards more student-centred methods of learning (Davis and Wilcock, 2003). This includes the increased use of case studies (Penn *et al.*, 2016).

By their very nature case studies are principally associated with the qualitative methodology (Yin, 2014). The key characteristics of this style of investigation provides for an in-depth, rich account of real-life situations and often reveals interesting hidden patterns or practices in specific contexts (Vega and Aubry, 2018). Due to its richness the content can be utilised as an interactive learning strategy (Grant, 1997), useful for transferring the learning emphasis from one that is teacher-orientated to more of a student-based learning experience. Case studies have gained popularity because they offer practical solutions to genuine issues which people face in everyday life (Raju and Sanker, 1999). They are regarded as highly adaptable (Bonney, 2015), very useful for developing critical-thinking skills (Krain, 2010) and they offer support for advancing knowledge (Dunne and Brooks, 2004). Additionally, they have been found to increase motivation and nurture greater interest in course material (Mustoe and Croft, 1999).

It is because of these perceived benefits that the use of case studies in education is becoming an increasingly favoured delivery strategy for progressing learning, as they provide an invaluable vocationally oriented educational experience when used with an appropriate audience in the right context.

Due to the advantageous outcomes associated with case studies it is appropriate to explore the suitability of the content of this work for delivery to students within a teaching environment, albeit in a more user-friendly format. It is strongly believed that the results



achieved did not only yield valuable findings but also provides a document that is a rich source of learning suitable for further instructive development. The content would have to be subject to some relatively minor modifications for it to become a powerful teaching and learning experience which would then be able to supplement existing teamwork-based teaching. This is especially true when applied in a learning context in a comparable high reliability operational environment or used to aid the transfer of knowledge to people in other similar novel situations (Grassberger and Wilder, 2015). One of its foremost strengths lies in the fact that the case study incorporates theory into practice and make practice integral to theory (McDade, 1995). Which can result in it providing a particularly effective learning experience.

The utilisation of the material contained in this case study for educational purposes provides an unintended, exciting and very beneficial positive output that can constructively contribute to teaching applications. Consequently, enhancing its use considerably further than initially anticipated. This concludes the discussion on the potential implications of this case study for teaching, next a critical reflection of the research process will be discussed.

## **6.14 Critical Reflection**

### **6.14.1 Critical Reflection of the Research Process**

The process of critically reflecting on one's work is important, it is widely recognised as a key part of the learning process and is encouraged in many areas of professional practice (Brookfield, 2009; Jarvis, 2010; Leijen *et al.*, 2011). This has been found to be especially true when applied to studies where rich learning is possible through specific experiences (Harvey *et al.*, 2010). From a personal prospective this study was one of the most difficult yet fulfilling experiences of the researcher's life to date. Although initially daunted by the enormity of the task it was found to be a very worthwhile, rewarding and a powerful learning experience from an individual, social and educational growth perspective.

### **6.14.2 Repeating the Case Study**

If this case study was to be repeated the researcher would elect to choose the same constructivist paradigmatic approach, follow a qualitative methodology and select semi-structured interviewing as a data collection technique, the same research design as adopted during this case study. This is because the research process was well developed with all choices made during the design phase firmly supported by convincing and rational reasons. The ensuing



study was a success in all aspects, it went smoothly at all points with the selection of subjects relatively simple, the data collected was rich, deep and meaningful as intended, the transcription exercise although demanding on time revealed extensive and succinct dialogue, the findings were wide-ranging and comprehensive, and all aims, and objectives were clearly accomplished.

#### **6.14.3 Personal Learning Perspective**

For the researcher's perspective when taking time to reflecting on the personal learning process one of the most memorable features of this entire case study was the exploration of the philosophies of science, which was executed for endless hours to much satisfaction. It was a subject that intrigued and interested him very much although rather complex and testing on the mind. Also, very stimulating was exploring the intricate depths of the research methodologies, the qualitative, quantitative and mixed methodologies debate and delving into the long-standing battle between the three, the so called "*paradigms wars*" (Denzin, 2010). At times the researcher found himself busy reading about complicated matters of epistemological, ontological, axiological and inter-subjectivity theory rather than completing the necessary thesis in hand, with the mind wandering widely on far too many occasions. Mingers (2008) offers support for this statement, describing how the use of research methods with their own philosophical nuances and challenges can provide new insights, encourage creativity and expand key aspects of the research experience as well as broadening the knowledge of individuals undertaking such studies. This concludes the critical reflection; the thesis will now draw to a final close by providing a summary followed by the references and appendices.

#### **6.15 Chapter Summary**

##### **6.15.1 Summary**

Within the research arena and indeed the high reliability organisational landscape this case study is ground-breaking because no other similar investigations of this nature or magnitude have been attempted prior. This is especially true amongst a population of highly skilled production-based team members who have been arranged into teams for an extensive period and are therefore decidedly experienced in the method. During the execution of the research it was found that all team members who participated offered a candid opinion and illustrated elevated levels of enthusiasm. This is because everyone who took part are stakeholders in the organisation and have a genuine self-interest in teamworking at the facility succeeding.



The organisation's objectives are for the teams to become more efficient and effective. This is driven a requirement for the organisation to reduce costs and ensure its operations are as streamlined as possible, so it can compete more effectively in the increasingly aggressive aircraft engine overhaul industry. This directive has been given by the organisations multi-national conglomerate parent owner and is therefore not negotiable. Any savings will be passed onto customers and enable the facility to compete much more effectively with rivals that operate in a more economic favourable environment by offering lower cost engine shop visits. Such actions should have a self-perpetuating effect by creating a cycle where more work is generated encouraged by the lower costs of services. The outcomes achieved from the research are very explicit to the context of teamworking at Company 'A' although there are some leverage opportunities for similar facilities that have also embraced the method and are also seeking ways to improve. Leverage of the findings is a complicated matter as is widely acknowledged that teamworking is practiced differently at every workplace where it is implemented, it is unique in every setting. This is especially pertinent in aviation where the tasks undertaken are often complex and are undertaken in high-pressure safety conscious environments where the consequences of failure can be extremely high.

When evaluating the impact of this study it is clear it offers contributions to both theory and practice although this omission is particularly poignant to the latter, many recommendations for changes to practice are also give. The findings contained herein will be subjected to further processing and then collated into a formal report that will be offered to Company 'A's senior management team for them to consider. The findings will serve to further improve and strengthen teamworking at the facility and defiantly assist current efforts to reduce costs. Which is imperative and vital to the future operational viability of Company 'A', a highly regarded irreplaceable, technologically leading fundamental component of the UK's aviation sector...

Thank you for reading...

\*\*\* End of Chapter 6 \*\*\*





## ~ References ~



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\*\*\* End of References\*\*\*



## ~ Appendices ~



## **APPENDICES**

### **Appendix A – Interview Guide**

# **WHAT INHIBITS TEAMWORK IN SAFETY CRITICAL ORGANISATIONS**

## ***Research Semi-Structured Interview Guide***

*Source: Adapted from Saunders and Lewis (2012).*

### **1) Give Introduction**

- 1.1 Thank the subject for volunteering to be part of the study.
- 1.2 Introduce myself.
- 1.3 Give a full explanation of the purpose of study.
- 1.4 Explain that the interview process is anonymous and how any data collected will be utilised and kept secure then subsequently destroyed post study.
- 1.5 Give the “*Informed Consent Cover Letter and Permission Slip*” to all subjects.
- 1.6 Discuss their rights and explain the document will need to be signed in order for the interview to commence and the collected data to be used.
- 1.7 Explain the process for data collection and briefly explain the analysis at a high level.
- 1.8 Explain about the population and the total number that will be interviewed.

### **2) Record Demographic Information**

- 2.1 Request and record subject name.
- 2.2 Request and record subject age.
- 2.3 Request and record subject gender.

### **3) Undertake the Interview**

- 3.1 Start the recording.
- 3.2 Ask the set questions overleaf (*subject to the criteria stated in Note 1*).

### **4) Record Any Relevant Observations During The Interview**

- 4.1 Note any prominent body language, arms folded, eye contact, sitting position, etc.
- 4.2 Note the tone of the language used, excessive profanities, swearing, emphasis, etc.
- 4.3 Note the emotional state, nervous, aggressive, passionate, withdrawn, etc.

### **5) Give Closing Comments**

- 5.1 Conclude the interview and stop recording.
- 5.2 Explain that a written copy of the interview will be made available once transcription is completed and this will need to be reviewed by the subject to ensure it is a true reflection of what they had actually said.
- 5.3 Clarify this ensures reliability and validity that is vital to the provenance of the study.
- 5.4 Establish if the subject requires a copy of the audio recording for their own use.
- 5.5 Thank the subject for volunteering their time and acknowledge their willingness to participate in the interview process.
- 5.6 Create a relationship to enable further contact can be made if required.
- 5.7 Send a follow up email to thank the subject once again.





***Note 1) Each response will be discussed in depth and follow a semi-structured approach, not all questions will necessary be asked depending on the flow of the interview.***

Q1 Which area do you work?

Q2 How many years' service do you have working here?

Q3 Can you briefly describe you career background here?

Q4 What team are you a member of?

Q5 How long have you worked as part of a team?

Q6 Do you enjoy working as part of a team?

Q7 What is your opinion of teamworking in this facility?

Q8 Do you think sufficient training has been provided by the company for you to get the most out of teamworking?

Q9 Do you have any further training?

Q10 Do you enjoy participating in the various team roles and responsibilities?

Q11 Are they relevant to your team/the organisational format?

Q12 What is your experience of your interaction with middle managers and teamworking methodology?

Q13 Do you think the Manager role offers value for money to the company?

Q14 How do you make decisions in your team?

Q15 Are there any issues when you do, are they fair and democratic or domineered by some stronger individuals?

Q16 Do you think that incentives for teams could lead to greater productivity?

Q17 Would you/others support their introduction?

Q18 What do you think about the present team boundaries?

Q19 Do you think the boundaries go far enough to support teamworking at this facility?

Q20 Is there anything else you want to add that you think is relevant to this research?

***Demographic  
Information /  
Questions That  
Help Relax  
Participant***

***Questions  
Aimed at  
Collecting Data***

\*\*\* End of Document \*\*\*



**Appendix B – Informed Consent Cover Letter and Permission Slip**

**Informed Consent Form for Social Science Research**

**Doctor of Business Administration Degree**

***“What Inhibits Teamwork in Safety Critical Organisations”***

Principal Investigator - Gary Fuller – [REDACTED] Tel: [REDACTED] or [REDACTED]

*Note: If you require more details of the legitimacy of the research from a 3<sup>rd</sup> party please contact the Supporting Academic Team, Faculty of Business and Society, University of South Wales.*

**Director of Studies –** [REDACTED]

**Chairperson –** [REDACTED]

**INTRODUCTION:**

You are invited to join a research to look at your views about teamworking within [REDACTED]. Please take whatever time you need to discuss the study with your family and friends, or anyone else you wish to do so. The decision to join, or not to join, is up to you. If you do decide to proceed your help will be very much appreciated. You will not benefit directly but others may benefit in the future from the information that is found by study. In total, the study will take the views of twenty-two qualified aircraft engineers using semi-structured interviews for this particular research investigation.

**THE RESEARCHER:**

My name is Gary Fuller and I am a student at the University of South Wales. Firstly, I offer my thanks to you for agreeing to participate in this study which will take place from September 1<sup>st</sup> 2015 to November 1<sup>st</sup> 2015. The following information details the purpose of this study, a description of what contributing involves, the benefits and risks, assurances on confidentiality and your rights as a subject.

**PURPOSE OF THE STUDY:**

The semi-structured interview for which you have been asked to participate in is part of a study that is researching teamworking at GE Aviation Services Wales. The researcher is also interested in the factors that keep team members motivated to continue with teamworking and what you see as the benefits and/or drawbacks of working in teams. The purpose of this study is to gain a better understanding of the development needs of teams, what's working and what's not and any other issues associated with teamworking. Recommendations from the study could help guide other organisations who wish to use or are currently using teamworking method.

**ROLE OF SUBJECTS:**

Participation consists of one interview lasting approximately one hour (could be longer or shorter). You will be asked a series of questions about teamworking and your teamworking experiences. You are not required to answer the questions and may pass if you do not want to, or cannot answer the question. There may be a need to follow up or seek clarification of some points we discuss, this may be by email, phone or face-to-face. Subjects are free to ask any questions or raise concerns at any time during the study. You can contact me at any time with the e-mail address or telephone number listed above. All participation is voluntary and you have the right to terminate the interview at any time.

**BENEFITS AND RISKS:**

This study poses no risk at all to its subjects. The benefit of your participation is to contribute information about how you perceive teamworking within the facility in which you are working. You are the experts as you work in teams every day and therefore can offer a rich account of teamworking, one that cannot be taken from anyone else. Any data collected, once analysed and published may assist



GE Aviation Wales, other facilities or organisations that may be considering or have introduced teamworking.

### **CONFIDENTIALITY:**

Your privacy will be safeguarded by maintaining strict confidentiality. The interview will need to be recorded, this is to help accurately capture any data collected, if you feel uncomfortable being recorded, you may ask at any time that the device is turned off. No one else will have access to the recording nor will it be heard by or played in the presence of anyone else and its use will be limited to this study only. Any collected data will be stored in a secure location in a locked draw that is only assessable by the researcher. Your name will not be used or documented at any time, a fake name (pseudonym) in the form of a code will be used throughout the rest of the study and final report. Once converted to text the interview content will be given back to you to make sure you are in agreement with its content. You will be given the opportunity to change anything you are not happy with, you can also choose to leave the study at this time, in the event you do request to withdraw, all information provided by yourself will be destroyed.

### **POTENTIAL CONFLICTS OF INTEREST:**

The researcher compiling this investigation does not have any financial interest in the final product; the research is conducted on an entirely voluntary basis.

### **SUBJECTS UNDERSTANDING:**

- *I agree to participate in this study and accept any data collected may be submitted by the researcher in partial fulfilment of the requirements for the degree of Doctor of Business Administration awarded by the University of South Wales.*
- *I understand that my participation is entirely voluntary and I may withdraw from the study at any time.*
- *I understand that I will not be identified by name at any time during the study or after.*
- *I am aware that all data collected will be kept strictly confidential in a secure storage area that is locked and only assessable by the researcher.*
- *I understand that once converted to text the interview content will be given back to you to make sure you are in agreement with its content.*
- *I acknowledge that the contact information of the researcher has been made available to me along with a duplicate copy of this informed consent form.*
- *I understand all data collected will be destroyed when the study is concluded.*
- *I understand that on request a copy of the final research will be made available for retention.*

#### **SIGNATURE OF SUBJECT:**

\_\_\_\_\_  
Name of Subject

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

#### **SIGNATURE OF RESEARCHER:**

\_\_\_\_\_  
Name of Researcher

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date



**Appendix C – Email to Staff Requesting Volunteers to Participate in the Study.**

**From:** Fuller, Gary

**Sent:** 01 September 2015 13:44

**To:** Fuller, Gary [REDACTED]

**Subject:** Teamworking Research – Gary Fuller – All individuals are on blind copy.

Dear All,

**Subject: Teamworking Research – Gary Fuller – All individuals are on blind copy.**

As most you know I'm in my final 2 years of my Doctor of Business Administration (DBA) degree with my research being conducted on teamworking at [REDACTED] and principally centred around what is individual's perception on teamworking at the facility.

I've looking for a number of volunteers to participate and agree to be interviewed to aid my research, if you want to participate please email me back, if not then please feel free to decline this request or call me if you require more details.

The interview should last no longer then one-hour to one-half hours and is totally confidential, the company nor anyone else will have access to the data and you will remain anonymous throughout the research process.

If you accept I will be sending out meeting requests in the next few weeks to arrange the interviews, please let me know if the time is suitable. I have also attached a sheet to give you a greater insight of the aims of the research and your rights as a subject within it.

Thank you for your help it is greatly appreciated, without your input I could not be able complete my DBA.

Thanks

Gary

Gary James Fuller  
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## **Appendix D – Ethical Proposal Document**

### **Gary Fuller Doctor of Business Administration**

#### **Research Project Ethical Proposal**

## **1.0 Ethics**

### **1.1 Introduction**

Research ethics have their roots in the post-war period at the time of the Nuremburg trials. The appalling atrocities performed during the war years under the guise of ‘*scientific research*’ led directly to the creation of the Nuremburg code in 1949. Although never adopted formally into law, the code consisted of ten basic rules giving humans protection around the most basic and fundamental of principals. The core of the document included consent, proportionality, necessity and the right to withdraw from scientific study at any time. The field of ethics evolved and The World Medical Association adopted the Declaration of Helsinki in 1964. The “*declaration*” lays out the basic ethical principles for the conduct of medical research on human subjects, including research on identifiable human material and data. The basic principles behind the declaration are that, for all research the well-being of the individual research subject must take precedence over all other interests. Since there have been various frameworks and declarations adopted since the initial Nuremberg code was released, which today makes ethics a highly pertinent and respected topic to consider during any research.

### **1.2 Ethical Considerations**

Ethics pertain to doing good and avoiding harm (Orb, Eisenhauer and Wynaden, 2000; Alderson, 2004); guided by principles of respect for people and benevolence (Capron, 1985). They are considered the cornerstone for conducting effective and meaningful research (Drew, Hardman and Hosp, 2008), with their application paramount during any research inquiry to ensure the safety of subjects and serve to protect human rights (Carr, 1994).

Although there are no specific ethical rules for how to make decisions in a desirable ‘*ethical*’ manner, researchers must draw on their own ethical principles on the most effective way to act with integrity (Daly, 2007). It is imperative that the personal behaviour of researchers and how they relate to and treat others when conducting their research is just and fair (Connolly, 2003). As ethical regulation is increasing in the field of the social science research (Gabb, 2010)



and is currently under unprecedented scrutiny (Field and Behrman, 2004; Best and Kahn, 2006; Trimble and Fisher, 2006).

Prior to commencing any study, the researcher must clearly state the research objectives to all subjects in an authentic manner (Munhill, 1988), with full disclosure of the purpose of the study (Patton, 2002). The researcher must also ensure subjects have an understanding of what the information gathered will be used for and the choices they have during and after the study (Goldman and Choy, 2001). A detailed description also acts as a deterrent for the researcher to change the objective of the study as if they are aware that subjects are fully informed the researcher becomes more accountable and is increasingly likely to maintain ethical conduct throughout the research process (Hawkins and Emanuel, 2008).

The expectation should be that in any high-quality research a high ethical standard is applied (Economic and Social Research Council, 2010), guided by the bioethical principles of justice, beneficence, non-maleficence, respect for human rights and personal autonomy. This should continue to be executed throughout the entire research process (Haarhr, Norlyk and Hall, 2014), with the primary concern the safety and protection of the human subjects involved (Williams-Jones and Holm, 2005).

### **1.3 Key Ethical Area's and Unethical Practice**

There are several key areas that need to be considered from an ethical perspective, including, valid consent, withdrawal, confidentiality, anonymity, fair treatment and rights of privacy for subject involved (Code of Human Research Ethics, 2011). Therefore, it is the researcher's undertaking to ensure that subjects have a complete understanding of the purpose and investigative methods to be employed during the study and any potential risks involved and any demands that are likely to be placed upon subject are explained as clearly as possible (Best and Kahn, 2006; Jones and Kottler, 2006).

Researchers also have the ethical responsibility to ensure they are not wasting subjects time and collect data that only has a practical use (Bacon and Olsen, 2005). Any research undertaken should add "*scientific value*" (Code of Human Research Ethics, 2011), the researcher should always be attentive and describe what good will come of the research (Munhall, 2007; Dierckx, Verhaeghe and Kars, 2011); therefore, further broadening understanding of the field of study being pursued and adding to existing knowledge.



Any hint of un-ethical practice can have a negative influence on attitudes towards science; it is unfortunate that when such abuses are committed, although by a few, they are often the cases that receive the most widespread publicity (Mauthner *et al.*, 2003). When such cases are exposed, they inevitably have an impact on the reputation of social science; they have the effect of distressing its reputation with the public questioning the role research plays and its perceived usefulness and effectiveness (Wiles *et al.*, 2005).

#### **1.4 Ethics Gone Too Far?**

Although ethical considerations are almost universally accepted and indeed enshrined in law by many countries, some academics are questioning the viability of some studies due to the growing pre-occupation of the question of ethics in social research. Some social researchers argue that adhering to specific ethical rules in relation to research can affect the very issue that is being studied, such that it becomes impossible to conduct the research (Homan and Bulmer, 1982; Homan, 1991; Punch, 1998).

Gabb (2010) suggests that when taken to the extreme, ethical concerns could, and, in many cases do, shape the subject of study, therefore, '*constituting the very rationale of research*' (Hammersley 1999:18), which can impose a negative effect. Gabb (2010:29) is quick to decree; "*I'm not advocating that we cast aside ethical procedures*", but goes on to suggest that ethical considerations may have; "*overstepped both what is required of us and what subjects reasonably expect*".

Academic opinion is further divided on the usefulness of ethics panels and formalised ethical guidelines, some suggest that such formality can helpfully alert the researcher to potential ethical issues, which may be encountered (Punch 1986). Where others believe they can provide an artificial sense of ethical security, which restricts a researcher's reflexive practice (Mason 1996), failing to take account the '*tensions, fluidity and uncertainties*' that characterise empirical research of everyday lives (Birch *et al.*, 2003). Therefore, the current increase in ethical regulation requires renewed consideration in the social science arena (Gabb, 2010), as it may potentially restrict the scope and effectiveness of some research being accomplished (Tierney and Corwin 2007). Indeed, one of the main complications of being a researcher is; '*to delicately balance a wish to gain as much knowledge as possible of the research phenomenon with compassionate and respectful questioning*' (Haarhr, Norlyk and Hall, 2014, p. 6). In the United Kingdom (UK), the research network has many social science





researchers, faculty departments and universities which remain generally unclear about the need for an ethical review of proposed research studies or how such reviews should be managed (Williams-Jones and Holm, 2005). The question is, have ethical considerations reached a “*point of maturity*” and is a valid one? Is it time to evaluate where the ethics subject is and does it satisfy its requirements? Will any advancement beyond the current guidelines employed be detrimental to researchers completing effective studies in the future? This is yet to be fully determined.

### **1.5 Informed Consent**

The process of gaining informed consent from research subjects is far from a straightforward one (Wiles *et al.*, 2005). After being informed of the research processes, risks, and benefits (Bulger, 2002), individuals can then decide if they want to participate or decline (Drew, Hardman and Hosp, 2008) by making a voluntary and un-coerced decision (Emanuel *et al.*, 2000; Emanuel, 2004). Additionally, they must be informed of their right to withdraw participation from the study at any point (Wiles *et al.*, 2005) as this forms part of the informed consent process.

The topic of informed consent has gained prominence because of the broad changes that are taking place in research governance in the UK and the increasingly regulated frameworks within which social researchers must operate (Tinker and Coomber, 2004). Significant acts such as the Human Rights Act 1998, protects an individual’s right to a private life and therefore supports the need for consent for contributors to participate in research (Masson, 2004). Consequently, all subjects of the research being undertaken will be subject to a process of informed consent.

The process entails giving sufficient relevant information about the research and its aims and objectives. It also delivers assurances around confidentiality of data collected, as confidentiality is essential in obtaining open and honest information (Creswell, 2007). Clear explanation of the research objectives will ensure perspective subjects can make an informed and free decision on their possible involvement; and if they go ahead and participate, that they feel comfortable conveying frank and honest information without fear of identification. While at first glance informed consent appears a relatively straightforward issue involving the provision of appropriate information to enable people to make informed decisions about participation in a research project (Wiles *et al.*, 2005), a closer examination reveals that the process is far from straightforward (Alderson and Goodey, 1998). Homan (1991, 1992) argues



that the notion of true informed consent where study subjects are given a full explanation and are able to reach a clear understanding of what participation involves, exists more in rhetoric than reality. The researcher believes that the actions proposed illustrate that the process of informed consent when practiced, adhered to and respected makes it a reality.

### **1.6 Ensuring Confidentiality and Anonymity of Subjects and Protection of Data**

It must be respected that privacy has become a ‘*right*’ of which is highly treasured in contemporary Western society (Drew, Hardman and Hosp, 2008), with confidentiality commonly viewed as parallel to the principles of privacy (Oliver, 2003; Gregory, 2003).

Protecting the privacy of subjects by keeping data confidential is of utmost concern to researchers (Wolf, Zandecki, and Lo, 2004) and where threats to such confidentiality are present they should be anticipated by researchers, (Clark, 2006). The process of maintaining anonymity is the responsibility of the researcher, even if put under pressure to identify subjects (Grinyer, 2002), under no circumstances should anything reported from the study permit the identification of subjects Weiss (1994). Bulmer (2001) is doubtful, believing that in today’s information driven society upholding the right to confidentiality and privacy is not as straightforward as before, with Van Den Hoonard (2002:8) warning; ‘*promises of confidentiality are easier to make than to keep*’.

These principles are integral to our societal beliefs that individuals matter and that individual have the right for their affairs to be private (Willes *et al.*, 2006). Therefore, the names of subjects of this study will not be documented in any form. If the researcher identifies a need for direct citation of any research data, (*which is expected*) the extract will exhibit a substituted pseudonym, the practice is widely accepted with anonymity through the use of pseudonyms the norm (Social Research Association, 2003; Corden and Sainsbury, 2006). Such pseudonyms will be follow the nomenclature ‘*KAE-M2 – Personal Interview*’ etc.

The researcher is aware of deductive disclosure, also known as internal confidentiality (Tolich, 2004), which occurs when the traits of individuals or groups make them identifiable in research reports (Sieber, 1992). As the interview portion of the research is classed as a qualitative one of the problems is by the nature of the information gathered it often contain rich descriptions of study subjects, therefore confidentiality breaches via deductive disclosure are of concern to qualitative researchers (Kaiser, 2010). Due to the random selection no specific



groups will be part of the study thus mitigating this risk of identification of any subjects by such phenomenon.

Some researchers believe it is appropriate to send any transcripts to subjects so that they can check that they are happy with what they have said in the interview to be included in the study (Smyth, 2004). Other scholars object to this approach and view the transcript generated from research as belonging to the researcher who has collected the data, and once the data collection has been completed that the subject should have no say over how these data are used (Wiles *et al.*, 2005). The researcher would like to involve subjects to ensure accuracy and has decided to discuss the transcripts with the research subjects.

It has been noted that some subjects simply do not believe the assurances made by researchers (Fox and Schwartz, 2002), therefore it is imperative to be sincere, factual and make sure that subjects trust the assurances your giving them to ensure that the dialogue is sincere and value added.

It is the responsibility of the researchers collecting data to ensure that steps have been taken to prevent the accidental disclosure of data, and accordingly, researchers are obligated to make assurances to subjects that adequate security measures have been taken (Easter *et al.*, 2004). In practice, this often means that information about individuals is protected from inadvertent disclosure to others by physical means, such as a locked cabinet, legal means, such as signed confidentiality statements, or methodological means, such as the use of coded files (Easter, Davis, and Henderson, 2004).

Data collected will be treated as highly confidential and will be kept in a secure cabinet within a locked location that will only be accessible by the researcher alone. To further protect subject's privacy and alleviate any possible organisational sensitivity around collected data, no duplicates of any data will be made and once analysed collected data will be destroyed in a secure manner. On completion of the research a copy of the final study will be made available to each subject; however, the final report will not be made public due to possible organisational objections.

### **1.7 Further Reading**

European Commission (2009) extensive information on data protection and privacy ethical guidelines.

[http://ec.europa.eu/research/subjects/data/ref/fp7/89827/privacy\\_en.pdf](http://ec.europa.eu/research/subjects/data/ref/fp7/89827/privacy_en.pdf)



European Commission (2013) ethics for researchers.

[http://ec.europa.eu/research/subjects/data/ref/fp7/89888/ethics-for-researchers\\_en.pdf](http://ec.europa.eu/research/subjects/data/ref/fp7/89888/ethics-for-researchers_en.pdf)

University of South Wales (2017) research governance and ethical policies for researchers.

<http://research.southwales.ac.uk/support-for-staff/research-governance/research-governance-and-ethics-policies/>

\*\*\* End of Appendices\*\*\*



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***“LOOK UP AT THE STARS AND NOT DOWN AT YOUR FEET... TRY TO MAKE SENSE OF WHAT YOU SEE, AND WONDER ABOUT WHAT MAKES THE UNIVERSE EXIST... BE CURIOUS...”***

*S. Hawking*

***~ Professor Stephen Hawking  
(1942- 2018)***

*British Theoretical Physicist, Cosmologist, Author, Director of Research at the Centre of Theoretical Cosmology, University of Cambridge*

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## *‘Finis Est Propositum’*

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